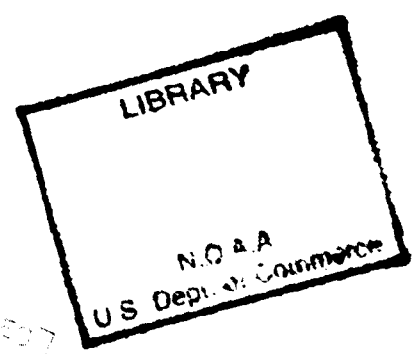
UNITED ARAB REPUBLIC

MONTHLY WEATHER REPORT

VOLUME 11 NUMBER 1

JANUARY, 1968



U.D.C. 551. 506,1 (62)

MINISTRY OF SCIENTIFIC RESEARCH — METEOROLOGICAL DEPARTMENT
CAIRO

National Oceanic and Atmospheric Administration

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PUBLICATIONS OF THE METEOROLOGICAL DEPARTMENT OF THE UNITED ARAB REPUBLIC—CAIRO

In fulfilment of its duties as the National Meteorological service for the U.A.R., the Meteorological Department issues several reports and publications on weather, climate and agrometeorology. The principal publications are described on this page.

Orders for publications should be adressed to :
"The Director General, Meteorological Department, Kubri-el-Qubbeh—CAIRO".

THE DAILY WEATHER REPORT

This report is printed daily in the Meteorological Department. It contains surface and upper air observations carried by the relevant networks of the Republic and made at the four main synoptic hours of observations (00, 06, 12 and 18 U.T.); as well as ship observations over the Eastern Mediterranean and north Red Sea made at the same times.

It also contains two surface synoptic charts at 00 and 12 U.T. and two upper air charts for the standard isobaric surfaces 700 & 500 mbs. at both 00 and 12 U.T. In compliance with resolution 8 (EC-XIII) of WMO, foreign upper air data included in Cairo Subregional Broadcast are also given in this report.

As from January 1968, the daily weather report contents are pressed into a rather less but representative selection of synoptic weather observations and charts.

THE MONTHLY WEATHER REPORT

First issued in 1909, the Monthly Weather Report served to give a brief summary of the weather conditions that prevailed over Egypt during the month, with a table showing the mean values for few meteorological elements and their deviations from the normal values. From 1954 to 1957 this report was in a rapid state of development and extension resulting into a voluminous report on January 1958 giving surface, upper air, and agro-meteorological data for U.A.R.

THE AGRO-METEOROLOGICAL ABRIDGED MONTHLY REPORT

Gives a review of weather experienced in the agro-meteorological stations of the U.A.R. as well as monthly values of certain elements.

THE ANNUAL REPORT

This report gives annual values and statistics for the various meteorological elements, together with a summary of the weather conditions that prevailed during all months of the year .

CLIMATOLOGICAL NORMALS FOR EGYPT

The normals, long averages and statistical data are given in one edition for stations in Egypt from the date of opening of each station up to 1945. A new voluminous edition was issued in March 1968 which brings normals and mean values up till 1960.

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CONTENTS

FOREWORD

Since 1909 the Meteorological Department of Egypt has been issuing regularly the Monthly Weather Report, giving a brief summary of the weather conditions prevailing over Egypt during the month. These reports used to include a table giving limited climatological data for some selected surface observations.

On January 1954, the Monthly Weather Report has been revised and the general summary of the weather conditions has been extended to give a more detailed description of the synoptic situations and the associated weather prevailing during the month.

On February 1955 a further extension took place, the general summary of the weather conditions has been classified into different items to give more comprehensive information. More detailed surface climatological tables for selected stations and table for miscellaneous weather phenomena have been added to the Report.

On January 1956, the climatological tables included in the Report have been extended to include upper air climatological data to meet the increasing demand for this information.

In addition the full text of the monthly report of the standard observations taken at the Central Agro-Meteorological Station at Giza has been included in this Report instead of issuing it as a separate bulletin.

On January 1957, the Report has been completely revised, a new set of meteorological tables has been introduced to give, as far as possible, complete information for surface and upper air data from a more representative network of stations.

In addition, a general review of the observations taken in the fields of the plant breeding farm at Giza is included in the Report. The review gives a brief summary of the characteristic features of the different meteorological and micrometeorological elements of the month, more weight is given in this review to those elements which are of interest to agriculturists.

Starting from the Report of January 1958, the Monthly Weather Report for the U.A.R. included a detailed description of the synoptic situations and the associated weather experienced all over the Republic during the month. The Report included a new set of tables giving more detailed surface and upper air climatological data for selected stations in the Republic. The review of the Agrometeorological station at Giza and the normal observations made at the field of the station were also included in the Report.

As from January 1960, these tables have been totally revised and some new tables have been introduced to include more detailed climatological data.

In order to explain how the tables included in these Monthly Weather Reports have been compiled, detailed notes are included in the Report of January 1960 giving informations about the instruments used and their exposure, the methods of observations and the methods of computing the means and frequencies.

As from January 1964, the Monthly Weather Report was again totally revised. The number of meteorological stations appearing in the Report have been concentrated in the main synoptic stations working mostly continuously 24 hours. In addition climatological data included in the Report will be confined to the montlly mean values, monthly totals, monthly frequencies and monthly absolute values. More specific climatological data have to be requested from the Meteorological Department.

Starting from the Report of January 1958, the monthly Weather Report of the U.A.R. carries serial reference in volume and number; each year carries a serial number in volume, Number I, being for January and 12 for December. The reference number of January 1958 is volume I, number I.

M. F. TAHA

Under Secretary of State
Director General
Meteorological Department

Cairo, 8 - 10 - 1970

INTRODUCTION AND EXPLANATION OF THE TABLES

For the purpose of this Monthly Weather Report, the United Arab Republic is divided into six climatic districts as follows :

Number	District	Number	District
I	Mediterranean Area	IV	Upper Egypt
II	Lower Egypt	V	Western Desert
III	Cairo Area	VI	Red Sea Area

The data included in Tables A1, A2, A3, A4 & A5, are based on surface observations made at a representative selection of the basic network of synoptic stations. The data included in Tables B1, B2 & B3 refer to Upper Air observations. The data included in Tables C1,C2, C3,C4 & C5, are based on observations taken at the Agro-Meteorological stations at El Kasr, Tahrir, Bahtim and Kharga. The observation fields are considered for the moment as dry and bare fields. At Kharga Oasis, the observation field is of the size of about 4000 - 6000 square metres.

The soil characteristics of these fields are :

	EL KASR	TAHRIR	BAHTIM	KHARGA
Top soil type	not available at present	Pure sand	not available at present	Sandy loam granular non-compact
Top soil depth	,,	More than 3 metres.	,,	20 cms.
Sub soil type	,,	Puro sand	,,	Platy clay non-compact
Slope of ground and its direction	,,	½ %towards East& North	,,	Flat (0-0.3%)
Level of water table	,,	More than 5 metres	,,	More than 5 metres

Except for the wind speed which is expressed in knots, the metric units are used throughout this report and are as follows :

— The atmospheric pressure is expressed in millibars (one millibar = 1000 dynes per square centimetre = the pressure due to 0.7501 millimetre of mercury at 0°C at latitude 45°),

— Air and soil temperatures in degrees celsius (°C),

— Relative humidity (%),

— Rainfall in millimetres,

— Snow depth in centimetres,

— Duration of bright sunshine in hours,

— Sky cover in octas,

— Evaporation in millimetres,

— Altitude of pressure surface in geopotential metres,

— Mean wind speed of the whole day, and of the day – time and the night – time intervals in metres per second,

— (Solar + Sky) radiation in gram-calories per centimetre square,

— Vapour pressure in millimetres.

TABLE A1.— Monthly values of the Atmospheric Pressure, Air Temperature, Relative Humidity, Bright Sunshine Duration & Piche Evaporation

Atmospheric Pressure.

The monthly mean values of the daily atmospheric pressure corrected to Mean Sea Level (M.S.L.) are the arithmetic means over the month of their corresponding daily hourly values or of the daily observations taken at the 8 synoptic hours (00,03, 06, 09, 12, 15, 18 & 21 UT). The atmospheric pressure is measured by mercury barometers installed indoors; The Mean Sea Level Pressure (M.S.L.) is the barometer reading corrected for the height of the barometer cistern above or (below) the Mean Sea Level at the station. Corrections for index, temperature and latitude have been applied to the barometer readings before reduction to M.S.L. Deviations from normals appear besides monthly mean values in a separate column.

Air Temperature.

The monthly mean values of the maximum (A) and of the minimum (B) air temperatures are computed from their corresponding daily routine values observed over the month. The maximum (mercury) and the minimum (alcohol) thermometers are freely exposed in the louvred screens with their bulbs at a height of 160 to 170 centimetres above the ground. Deviations from normals appear besides monthly mean values.

The monthly mean values of (A +B)/2 are computed from their corresponding daily calculated values over the month.

The monthly mean values of the dry and of the wet bulb air temperatures are the arithmetic means over the month of their corresponding daily hourly values or of their corresponding values at the 8 synoptic hours (00,03, 06, 09, 12, 15, 18 & 21 UT). The dry and wet bulb thermometers used are of the mercury type and are freely exposed in sloping double roofed louvred screens with their bulbs at a height of 140-150 centimetres above the ground. Deviations from normals appear besides monthly mean values in a separate column.

Relative Humidity

The mean daily R. Humidity during the month is derived from the mean daily values of the dry and wet bulb temperatures using Jellink's Psychrometer Tables (Liepzing 1911). The mean daily values of the dry and wet bulb air temperatures are as indicated in the last paragraph. No corrections for wind speeds or atmospheric pressure are applied. Deviations from normals appear besides monthly mean values in a separate column.

Bright Sunshine Duration

The actual duration of bright sunshine for the month is the sum of the actual daily bright sunshine durations. The total possible duration for the month is the sum of the daily calculated periods between sunrise and sunset. In calculating the possible duration of sunshine for a given day, the periods of cut-off for that day caused by obstacles, such as mountains are eliminated from the possible duration with an ideal flat horizon. In case of stations where the record of day or more is or are missing, the total actual duration is given between brackets and a note is added at the end of the table giving the actual number of records (days) used in summing up this total actual. In such cases the corresponding total possible duration is also given in brackets and it is the sum of the possible duration of the days of the available records. The percentage of the actual to the possible duration appears besides the total possible values in a separate column. The duration of bright sunshine is measured by the Campbell-Stokes sunshine recorders which are suitably exposed.

Evaporation (Piche)

The monthly mean value of Piche evaporation is computed from its daily routine values observed at 0600 UT over the month. Evaporation measurements are taken once daily at 0600 UT and give the evaporation for the previous 24 hours. The evaporation readings are measured by a Piche tube freely exposed in sloping double roofed louvred screens, the evaporation disc has an effective area of 10.1 centimetres square, white in colour, and at a height of 140-150 centimetres above the ground.

TABLE A2.—Maximum & Minimum Air Temperatures

Higher and lower limits of both maximum and minimum temperatures and their corresponding dates of occurrences during the month are extracted from the daily readings of maximum (mercury) and minimum (alcohol) thermometers respectively. These dates are included for acutal occurrences up to three; when exceeding three, the symbol * is added beside the last three dates.

The number of days during the month with maximum air temperature above 25°C, 30°C, 35°C, 40°C & 45°C and with minimum air temperature below 10°C, 5°C, 0°C & —5°C are included also in this table under separate columns.

The types and exposure of the maximum and of the minimum thermometers are as indicated in the notes on table A1.

The monthly mean values of grass minimum temperatures are the arithmetic means over the month of their corresponding daily values. The grass minimum temperatures are measured by ordinary minimum (alcohol) thermometers suitably exposed in the open air at the station field on special stands with their bulbs at a height of 5 centimetres above ground just touching the grass tops if there is any. Grass minimum theromometers readings are taken daily as a routine base at 0600 U.T. Deviations from normals appear besides mean values in a separate column.

TABLE A3.—Sky Cover & Rainfall

The monthly mean values of the total sky cover at the principal hours (00,06,12 & 18 UT) are computed from their corresponding daily routine values observed during the month. Mean values of the daily total sky cover is the arithmetic mean over the month of the daily hourly values or of the daily observations taken at the 8 synoptic hours (00, 03, 06, 09, 12, 15, 18 & 21 U.T). Sky cover is in octas.

The monthly total rainfall is the total rainfall during the month. The maximum daily rainfall and the number of days with rain < 0.1 and more than or equal 0.1, 1, 5, 10, 25 & 50 mms are extracted from the routine daily rainfall totals during the month. The rainfall for a given day is the amount of rain which has fallen during the 24 hours commencing at 0600U.T of that day; when the amount of rain which has fallen is not large enough to be measured (less than 0.1 mm) the term "Trace" is entered as (Tr.). The amount of rainfall measured includes the water equivalent of the rain water which has frozen after falling and the water equivalent of solid precipitation if any such as hail. Dates of maximum rain in 24 hours are included for actual occurrences up to three; when exceeding three, the symbol* is added besides the last three dates.

The amount of rainfall is normally measured by ordinary rain gauges. Some selected stations are also equipped with a recording type of rain gauge. The rim of both types of gauges are at a height of 90-100 centimetres above the ground.

TABLE A4.— Number of Days of Occurrence of Miscellaneous Weather Phenomena

This table gives the number of days of occurrence of rain, snow, ice pellets, hail, frost, thunderstorm, mist, fog, haze, thick haze , dust or sandrising, dust or sandstorm, gale, clear sky & cloudy sky. Except for rain (see notes on table A3) the days of occurrence of these weather phenomena are those days during which the phenomenon has occurred at any time between 2200, and 2200 U.T.

In compiling this table, the terminology and definitions of these different weather phenomena are as follows.

— A day of rain is the day during which the total amount of rainfall is 0.1 millimetre or more.

— A day of snow is the day druing which snow or snow flakes or snow showers is or are observed even if it is or (they are) so small in quantity as to yield no measurable amounts of precipitation in the rain-gauge.

— A day of ice pellets is the day during which ice pellets are observed even if they are so small in quantity as to yield no measurable amounts of precipitation in the rain-gauge.

— A day of hail is the day during which either one or more of the following types of precipitation is or are observed, even if they are so small in quantity as to yield no measurable precipitation in the rain-gauge :

— Soft hail
— Small hail
— Hail stone

— A day of frost is the day during which frost is observed at the station.

— A day of thunderstorm is the day during which thunder is heard at the station whethe lightning is seen or not. A day on which lightning is seen but thunder is not heard at the station is not ounted as a day of thunderstorm.

— A day of mist is the day during which the surface horizontal visibility at the station has deteriorated and became equal to or greater than 1000 metres due to mist.

— A day of fog is the day during which the surface horizontal visibility at the station has deteriorated and fell below 1000 metres due to fog.

— A day of haze is the day during which the horizontal visibility at the ation has deteriorated and became equal to or greater than 1000 metres due to haze.

— A day of thick haze is the day during which the horizontal visibility at the station has deteriorated and fell below 1000 metres due to thick haze.

— A day of dust or sandrising is the day during which the horizontal visibility at the station has deteriorated and became equal to or greater than 1000 metres due to dust or sandrising.

— A day of dust or sandstorm is the day during which the horizontal visibility at the station has deteriorated and fell below 1000 metres due to dust or sandstorms.

— A day of gale is the day during which the mean surface wind speed reached or exceeded 34 knots at the station for at least 10 minutes.

— A day of clear sky is the day on which the mean cloud amount at the station is less than 2/8.

— A day of cloudy sky is the day on which the mean cloud amount at the station is 6/8 or more

As regards the last two items above, the mean cloud a mount for a day is the mean of the 24 hours, the 8 synoptic hours or the 4 main synoptic hours of cloud observations according to the number of the routine observations taken at the station.

TABLE A5.— Number in Hours of Occurrences of Concurrent Surface Wind Speed and Direction Recorded Within Specified Ranges.

The elements used in preparing this table are the mean hourly values of the surface wind speed and the corresponding mean hourly values of direction taken from the daily records of the surface wind instruments intsalled at the station. These mean hourly values are extracted for every hour of each day of the month and they refer to a period of 60 minutes centred at the hour.

The number in hours of occurrences of the surface wind falling within the ranges of speed and direction indicated in the table is the number of cases when the mean hourly values of the surface wind as defined have satisfied these ranges.

The number in hours of "variable" winds is the number of cases where the surface wind showed no definite direction over the period of the 60 minutes centred at the hour or when the wind vane was sticking over that period due to the lightness of the wind and not responding to the variation in wind direction; in such cases the mean wind speed over this period is normally less than 5 knots. The number in hours of "calm" winds is the number of cases where the surface wind has a mean speed of less than one knot over that period, whatever the mean wind direction over the same period is. The number in hours during which the recording instrument failed to record over the whole month is given under a separate column.

The instruments used for recording the surface wind are of the Dines Pressure Tube Anemograph.

This table follows the general lines of Model B of chapter 12 part IV of the WMO Technical Regulations 1959. The ranges of wind speed are (1-10), (11-27), (28-47) knots and 48 knots or more; the ranges for wind direction are twelve ranges of 30° each, beginning with the range (345°-014°) as being the true north.

This table gives the following data :

— The total number in hours of simultaneous occurrences of surface wind satisfying the specified ranges of speed and direction during the month,

— The total number in hours of occurrences of surface wind satisfying the specified ranges of speed during the month irrespective of their direction,

— The total number in hours of occurrences of surface wind blowing from the specified ranges of direction during the month irrespective of their speed.

TABLE B1.—Upper Air Climatological Data

The routine upper air observations are taken at 0000 and 1200 U T , a separate table of this type is prepared for each hour. The number of cases the height of each of the pressure surfaces indicated in the table has been attained during the month, and the number of cases the temperatures and the dew points have been observed at each of these surfaces are given in the table against each element under column (N).

The monthly mean values of the altitude, temperature and dew piont at each of these pressure surfaces are the arithmetical means of the corresponding daily values over the number of cases (N) indicated against each element.

The instruments used are of the radiosonde modulating frequency recording type; the types of transmitters used do not need to apply any corrections for radiation.

This table follows the general lines recommended by the commission for climatology of the World Meteorological Organization Rec. 34 (CCL-1); it gives the following data for the hour of observation indicated at the top of the table :

— The number of cases the height of each of the pressure surfaces has been attained during the month and the number of cases the temperature and dew point at these surfaces have been observed,

— The monthly mean values of the atmospheric pressure corrected to the ground level of the station (H); the highest and lowest values of this pressure observed during the month,

— The monthly mean values of the air temperature and of the dew point at the surface; the highest and lowest values of the surface air temperature observed during the month,

— The monthly mean, the highest and the lowest values of the altitude for each of the pressure surfaces,

— The monthly mean, the highest and the lowest values of air temperature; and the mean dew point at each of the pressue surfaces.

TABLE B2.— Mean and Extreme Values of the Freezing Level and the Tropopause; The Highest Wind Speed in the Upper Air.

The routine upper air observations are taken at 0000 and 1200 UT ; a separate table of this type is prepared for each hour as indicated in the notes on table B1. The number of cases the altitude of the freezing level and of the first tropopause have been attained during the month and the number of cases the pressures and the dew points or temperatures have been observed at these levels are given in the table against each element in the (N) box.

The monthly mean values of the altitudes of the freezing level and of the first tropopause and the monthly mean values of the pressures and of the dew points or temperatures at each of these levels are the arithmetical means of the corresponding daily values over the number of cases (N) indicated in the box of each element.

The first tropopause is determined in accordance with the definition adopted by the Executive Committee of the World Meteorological Organization Resolution 21 (Ec - IX).

This table is based on wind observations taken by the SCR — 658 or the Metox radiotheodolites working simultaneously with the radiosonde observations. The types of radiosonde instruments used are given in the notes on table BI.

This table gives the following data for each hour of observation indicated at the top of the table:

— The number of cases the freezing level has been attained during the month and the number of cases the pressure and dew point have been observed at this level.

— The number of cases the altitude of the first tropopause has been attained during the month and the number of cases the pressure and the temperature have been observed at this level,

— The monthly mean values of the altitude, pressure and dew point of the freezing level,

— The altitudes, pressures and dew points of the highest and lowest freezing level observed during the month,

— The monthly mean values of the altitudes, pressures and temperatures of the first tropopause,

— The altitudes, pressures and temperatures of the highest and lowest first tropopause observed during the month,

— The direction and speed of the highest wind speed observed during the month, the altitude at which this wind has been observed.

TABLE B3.—Number of Occurrences of Wind Direction Within Specified Ranges and the Mean Scalar Wind Speed at the Standard and Selected Pressure Surfaces

The routine upper air observations are taken at 0000 and 1200 U.T. A separate table of this type is used for each station.

The mean scalar wind speed "ffm" of winds blowing from each range of directions at a given pressure surface, is the arithmetical mean of the corresponding daily values of wind speed for the number of cases "N" during the month.

The term "Calm" is used in this table to denote wind speed of less than one knot.

This table is based on the wind observations taken at the station as indicated in the notes on table B2.

This table, as in the case of table B1, follows the general lines recommended by the commission for Climatology of the World Meteorological Organization REC. 34 (CCL-I) ; the ranges of wind direction used are twelve ranges of 30° each beginning with the range (345°—014°) as being the true north. It gives the following data for the hour of observation indicated :

— The number of cases (N) the wind has been observed from the specified ranges of direction at the surface of the station and at the different pressure surfaces during the month.

— The total number of cases (TN) the wind has been observed at the surface of the station and at the different pressure surfaces during the month irrespective of the wind direction,

— The mean scalar wind speeds (ffm) blowing from the specified ranges of direction at the surface of the station and at the different pressure surfaces,

— The number of cases of "calm" winds at the surface of the station and at the different pressure surfaces,

— The mean scalar wind speeds at the surface of the station and at the different pressure surfaces blowing from all directions.

AGRO METEOROLOGICAL DATA

Reviews of Agrometeorological Stations at El-Kasr, Tahrir, Bahtim & Kharga.

The monthly review of all agrometorological elements that have been observed at each agro-meteorological station includes a general summary of pronounced weather phenomena that prevailed during the month together with a comparison between the monthly values of this year and last year of specified elements that are of great interest to agriculturists as well as to agrometeorologists. For some elements, when observations are of a long time, departure from normal values appears also in the monthly review.

During winter, the monthly review includes normally the days of minimum air temperature below 0°C at the height of five centimeters above the ground

TABLE C1 —Air Temperature at 1½ Metres Above Ground

The monthly mean values of the maximum, minimum, night-time mean, day-time mean and mean of day of air temperatures are the arithmetic means over the month of their corresponding daily values. The mean air temperature of a day is the mean of the eight values of the dry bulb temperature occurring at each of the principal and secondary observation hours, the value at 0000, 0300, & 2100 U.T. being extracted from the record of the dry bulb thermometer of a mercury in steel hygrograph, except at Kharga where they are obtained from visual readings.

The night-time mean temperature of a day is the mean temperature for the period from sunset of the previous day to sunrise of the same day. The day-time mean temperature refers to the period from sunrise to sunset of the same day. Both night-time and day-time mean temperatures are computed from empirical formulae, which may vary from month to month but are common for all centres. These formulae were found by trial comparison with true means of the year 1966. The errors were never permitted to reach a whole degree, and usually stayed equal to or lower than 0.5°C.

The duration of air temperatures above a specified limit of temperature is obtained graphically from the same recording charts, daily to the nearest whole hour.

The maximum (mercury), the minimum (alcohol) and the dry bulb (mercury ventilated) thermometers are freely exposed in louvred Stevenson screens of the Egyptian type with their bulbs at a height of 190 - 195 centimetres above ground for the maximum and minimum thermometers, and 170 cms approximately for the dry bulb thermometer ; the recording thermometer used is of the bi-metallic type and is exposed in a similar screen ; the height of the bi-metallic piece is 165 centimetres approximately above the ground.

TABLE C 2. —Extreme Values of Maximum & Minimum Air Temperatures at 1½ metres above Ground, Absolute Minimum Air Temperature at 5 cms above Ground over Different Fields.

The extreme values of maximum and minimum air temperatures at 1½ metres above ground and of minimum air temperatures at 5 cms above ground over dry fields are extracted from their routine values. Dates of occurrences are included in separate columns beside the extreme value. Extreme values of maximum & minimum air temperature at 1½ metres include the Highest & Lowest limits of the daily corresponding routine values during the month.

The thermometer used for minimum air temperature at 5 cms above ground is of the ordinary minimum type (alcohol) with the bulbs screened with small separate screens of horizontal 5 cm. length and 2 cm. diameter metal tubing painted white outside and black inside, and centered on the thermometer bulbs.

TABLE C 3.—(Solar + Sky) Radiation, Duration of Bright Sunshine, Relative Humidity, Vapour Pressure at 1½ meters above Ground, Evaporation & Rainfall.

The monthly total values of the (solar+sky) Radiation, Bright Sunshine duration, Evaporation & Rainfall are the sums of their corresponding daily values for the month. The monthly mean values of the (Solar + Sky) Radiation, Relative Humidity & Vapour pressure at 1½ metres and Evaporation are the arithmatic means of their corresponding daily values for the month respectively.

The (solar + Sky) Radiation is obtained from the records of a Robitzsch Actinograph ; the Robitzch values at Bahtim and Tahrir are regularly compared with the records of an Epply pyrheliometer installed at the station. The sensitive elements of the Robitzsch Actiongraph and of the Epply pyrheliometer are at 100 cms approximately above the ground.

The types of insturments used for the measurement of the duration of birght sunshine. their exposure and the evalualtion of the durations are as given in the notes on table A1.

The relative humidity and vapour pressure values are derived from the readings of ventilated dry and wet bulb mercury thermometers freely exposed in the screen using the Aspirations psychrometer Tafeln of the Deutschen Wetterdienst 1955. The height of the bulbs in 170 cms approximately above the ground.

The mean relative humidity or vapour pressure for a given day is obtained from the eight principal and secondary observation values which are extracted from the readings of the dry and wet bulb thermometers, the values at 0000, 0300, and 2100 U.T. being extracted from the records of the mercury in steel hygrograph except at Kharga where these values are obtained from visual readings of the dry and wet bulb thermometers.

The monthly values of the relative humidity or vapour pressure are the means of the corresponding mean daily values during the month The lowest value of the relative humidity and its date of occurrence are obtained from the records of a hair hygrograph exposed in the screen, the height of the hair is 170 centimetres approximately above the ground.

The absolute maximum and minimum values of vapour pressure during the month are extracted from the values of the eight prinicipal and seconday observations.

Evaporation measurements are taken once daily at 0600 U.T. from a Piche tube and also a class "A" evaporation pan and give the evaporation for the previous 24 hours. The Piche tube is installed in the screen with the dry bulb, maximum and minimum thermometers ; the colour and effective area of the evaporation disc are as given in the notes on table A1. The class "A" evaporation pan is of the type recommended by the commission of instruments and methods of observation of the World Meteorological Organization Rec 42 (CIMO-56) ; it is of a cylindrical shape, 25·4 centimetres deep, 120.6 centimetres in diameter (inside dimentions). The pan is freely exposed in the open air in the dry field. its rim at a height of 41 centimetres above ground away from obstacles such as buildings or trees.

The types of instruments used for measuring the amount of rainfall, their exposure and the evaluation of these amounts are given in the notes on table A3.

TABLE C 4.—Extreme Soil Temperature at Different Depths in Dry Fields (cms)

The highest and lowest values of soil temperatures at the selected depths in dry fields are extracted from their corresponding daily routine values.

The soil temperature readings are taken in the dry fields at the specified depths rangnig from 2 cms to 300 cms: in each field as indicated in the table These readings are taken regularly during the period from 0600 to 1800 U.T. according to the following schedule except at Kharga where the observations are as appropriate but extend in the peirod between 1800 & 0600 U.T.

— at 0600 U.T. and every three hours for the 2,5 and 10 cms depths.

— at 0600 U.T. and every six hours for the 20 and 50 cms depths.

— at 1200 U.T. for the 100 and 200 cms. depths.

— at 0900 U.T. once every 3 days for the 300 cms depth.

The thermometers used are of the Fuess or the Friedrich types.

TABLE C 5.—SURFACE WIND.

The monthly values of the daily mean, the night time mean and of the day time mean of the surface wind speed is the arithmetic mean of their corresponding daily evaluated values for the month respecti vely. The mean wind speed of the day is computed for the period of 24 hours from 1800 U.T. of the previous day; the night-time mean wind speed of the day is obtained from the totol run of air during the period 1800 U.T. of the previous day to 0600 U.T. of that day ; the day-time mean is simiiarly computed for the period 0600 to 1800 U.T. of the same day. The type of the wind instrumen: used is of the run counter of the Lambrecht typ· ; the cups of which are at 1½ metres above the ground.

The number of days with surface wind speed reaching or exceeding specified values of velocities (≧10 Knots, ≧15 Knots, ≧20 Knots, ≧25 Knots, ≧30 Knots, ≧35 Knots and ≧40 Knots) for at at least 5 minutes at any time between 2200 & 2200 U.T. irrespective of its direction are extracted from the daily routine analysis of surface winds records during the whole month. The daily records of the Dine pressure Tube Anemograph are used, the highest gust refer to the highest excursive made by the velocity pen on the records during the month.

LIST OF STATIONS APPEARING IN THE REPORT — SYNOPTIC AND CLIMATOLOGICAL STATIONS

District.	Station	Index Number II iii	Latitude °N	Longitude °E	Elevation of the ground in metres (II or IIa)	Altitude of the Station in metres (IIp)	Altitude of the barometer Cistern in metres	Height of Wind recording instruments (metres) above		Synoptic Observations								Hourly Observations (H) Half hourly obs. (h) (0000—2400)	Upper air observations P (Pilot Ballon) W (Radio wind) R (Radio Sonde)				Remarks
								above building	above ground	00	03	06	09	12	15	18	21		00	06	12	18	
Mediterranean	Sallum	62 300	31 32	25 11	4.0	6.0	5.2	10	14	×	×	×	×	×	×	×	×	H	P	P	P	P	
	Mersa Matruh (A)	306	31 20	27 13	28.3	30.0	30.0	8	15	×	×	×	×	×	×	×	×	H	RW	P	RW	P	
	Alexandria (A)	318	31 12	29 57	— 3.4	7.0	6.8	10	18	×	×	×	×	×	×	×	×	H	P	P	P	P	
	Port Said (A)	333	31 17	32 14	1.9	6.1	6.1	10	19	×	×	×	×	×	×	×	×	H	P	P	P	P	
	El Arish	336	31 07	33 45	15.0	17.1	17.1	10	15	×	×	×	×	×	×	×	×	H	P	P	P	P	
	Ghazza	338	31 30	34 27	9.7	15.7	15.7	10	18	×	×	×	×	×	×	×	×	H	P	P	P	P	
Lower Egypt	Tanta	348	30 47	31 00	14.0	14.8	15.4	10	14	×	×	×	×	×	×	×	×	H	—	—	—	—	
Cairo Area	Cairo (A)	366	30 08	31 34	94.7	74.5	74.0	14	18	×	×	×	×	×	×	×	×	h	—	—	—	—	
	Helwan	378	29 52	31 20	139.3	--	—	10	20	—	—	—	—	—	—	—	—	—	RW	W	RW	W	
Upper Egypt	Fayoum	381	29 18	30 51	22.0	23.3	23.2	10	14	—	—	×	×	×	×	×	—	H	—	—	—	—	
	Minya (A)	387	28 05	30 44	29.0	40.0	44.2	7	10	×	×	×	×	×	×	×	×	H	P	P	P	P	
	Assyout (A)	393	27 11	31 06	71.6	69.6	69.5	15	20	×	×	×	×	×	×	×	×	H	P	P	P	P	
	Luxor (A)	405	25 40	32 42	94.9	88.5	88.4	7	15	×	×	×	×	×	×	×	×	H	P	P	P	P	
	Aswan (A)	414	23 58	32 47	200.0	193.5	200.0	10	14	×	×	×	×	×	×	×	×	H	RW	W	RW	W	
Western Desert	Siwa	417	29 12	25 23	— 15.0	—13.5	—13.3	10	17	×	×	×	×	×	×	×	×	H	P	P	P	P	
	Bahariya	420	28 20	28 54	128.0	129.5	129.6	—	—	×	×	×	×	×	×	×	×	H	P	P	P	P	
	Farafra	423	27 03	27 58	90.0	91.8	92.1	—	—	—	—	×	×	×	×	×	—	H	P	P	P	P	
	Dakhla	432	25 29	29 00	110.0	111.5	111.5	10	15	×	×	×	×	×	×	×	×	H	P	P	P	P	
	Kharga	435	25 27	30 32	77.8	72.8	78.8	10	15	×	×	×	×	×	×	×	×	H	P	P	P	P	
Red Sea	Tor	459	28 14	33 37	2.2	4.2	2.2	10	13	×	×	×	×	×	×	×	×	H	P	P	P	P	
	Hurghada	462	27 17	33 46	1.0	2.8	2.8	8	12	×	×	×	×	×	×	×	×	H	P	P	P	P	
	Quseir	465	26 08	34 18	8.0	11.3	11.3	12	15	×	×	×	×	×	×	×	×	H	P	P	P	P	

GENERAL SUMMARY OF WEATHER CONDITIONS

JANUARY 1968

Remarkably cold and subnormally rainy in general, widespread sand storms round the 9th, 13th and 14th. Abnormally large number of transitory depressions.

GENERAL DESCRIPTION OF WEATHER

Weather was remarkably cold most of this month particulary during the period (12th-16th). In addition air was rather humid most of the second half of the month. Light to moderate rain fell over the Mediterranean district during several days and extended sometimes inland till Cairo area. Rain was heavy over local parts in the Mediterranean coast on the 14th.

Rising sand occurred on a wide scale most of the second week with scattered sandstorms over north of the Republic round the 9th, 13th & 14th. Early morning mist and fog developed during several days over few places in Delta, Cairo and north of Upper Egypt.

PRESSURE DISTRIBUTION

The most outstanding pressure systems over the surface maps during this month were :

— The Siberian anticyclone.

— The Atlantic anticyclone and its south-east extension over the Mediterranean.

— Deep low pressure systems passing through North Urasia.

— Travelling secondary depressions which developed over Italy or its vicinities.

This month was characterized by eight secondary depressions, seven of which passed through East Mediterranean.

During the first ten days of the month, four secondary depressions developed. The first secondary appeared over Italy on the 1st reaching the Black Sea on the 3rd and moved north-eastwards. The second depression developed over Central Mediterranean on the 3rd, moved slowly eastwards and traversed East Mediterranean on the 6th. The third and fourth depressions appeared over Italy on the 7th & 10th respectively, proceeded eastwards and their troughs passed through East Mediterranean on the 9th & 13th respectively. It is noteworthy that these two depressions were deep & associated with steep pressure gradient and the second of which was the most deepest depression during this month.

From the 14th till the 17th, high pressure over the Atlantic extended south-eastwards through the Mediterranean and North Africa.

On the 18th the fifth secondary depression appeared over Italy, then moved slowly south-eastwards and passed through East Mediterranean on the 21st. The sixth secondary developed over Central Mediterranean on the 22nd, proceeded eastwards and traversed East Mediterranean on the 24th. The seventh depression appeared over Italy on the 25th, then moved eastwards and its trough traversed East Mediterranean on the 28th. The last depression developed over Central Mediterranean on the 29th and traversed East Mediterranean on the last day of the month.

According to transits of the above mentioned secondary depressions or their troughs through East Mediterranean, the barometric

pressure in U.A.R. experienced varient oscillations which reached their minima round the 3rd, 6th, 9th, 13th, 20th, 24th & 27th respectively.

The most important features of pressure distribution over the 500 mb. upper air chart were :

— The deep low pressure systems over North Atlantic & North Urasia and their southward extensions through middle latitudes.

— Transits of seven secondary troughs (or lows) through East Mediterranean & U.A.R. round the 4th, 6th, 9th, 14th, 21st, 24th & 28th.

— High pressure system over the subtropical latitudes south of 30° N.

SURFACE WIND

The prevailing winds during this month were mostly light to moderate, W/SW in north of the Republic till Cairo area, and veered to NWly after the passage of the travelling Mediterranean troughs. In the central and southern parts, light to moderate NWly winds prevailed most days of the month in general. Winds became fresh to strong over scattered places of the Mediterranean and Red Sea districts during several days mostly in the second week.

Gales were reported over Sallum, Sidi Barrani, El Kasr and Zaher on the 12th & 13th; Mersa Matruh & Ras El Teen on the 9th, 12th & 13th; Ras El Hikma & Dabaa on the 9th, 12th, 13th & 14th; Alexandria on the 9th ; Fayed on the 12th, 13th & 14th and over Dekheila, Farafra and Hurghada on the 12th.

Cairo 28 / 10 / 1970

TEMPERATURE

This month was characterized by consecutive cold waves covering most days of the month. The most pronounced wave was experienced round the period (12th - 16th).

Maximum air temperature remained moderately below normal most of the month and remarkably below normal round the period (12th - 16th). Maximum air temperature values ranged generally between 14°C & 19°C in the northern parts, between 16°C & 22°C in the central parts and between 18°C & 25°C in the southern parts.

The absolute maximum air temperature was 29.6°C reported at Kom Ombo on the 5th.

Minimum air temperature oscillated moderately round normal in the northern parts and moderately below normal in the central and southern parts. Minimum air temperature values ranged generally between 4°C & 11°C in the northern & southern parts, and between 1°C & 7°C in the central parts. It is noteworthy that minimum temperature fell below 0°C during several days in scattered parts of the Western Desert district.

The absolute minimum air temperature was -3.4°C reported at Dakhla on the 14th.

PRECIPITATION

Light to moderate rain fell during several days over the Mediterranean coastal district and extended sometimes southwards to Lower Egypt and Cairo. Rain was heavy over few localities in the Mediterranean district on the 14th. The monthly rainfall was generally below its normal.

The highest daily rainfall was 26.6 mms reported at Balteam on the 14th.

The highest monthly rainfall was 47.6 mms reported at Balteam.

M. F. TAHA
Under Secretary of State
Director General
Meteorological Department

Table A 1. — MONTHLY VALUES OF THE ATMOSPHERIC PRESSURE, AIR TEMPERATURE, RELATIVE HUMIDITY, BRIGHT SUNSHINE DURATION & PICHE EVAPORATION.

JANUARY — 1968

STATION	Atmospheric Pressure (mbs) M.S.L		Air Temperature °C								Relative Humidity %		Bright Sunshine Duration (Hours)			Piche Evaporation mms. Mean
			Mixmum		Minimum		$\frac{A+B}{2}$	Dry Bulb		Wet Bulb						
	Mean	D.F Normal or Average	(A) Mean	D.F Normal or Average	(B) Mean	D.F Normal or Average		Mean	D.F Normal or Average	Mean	D.F Normal or Average	Mean	D.F Normal or Average	Total Actual	Total Possible	%	
Sallum	1016.6	— 0.9	17.3	— 1.6	8.6	— 0.6	12 9	12.6	— 1.6	8.8	— 1.5	57	— 1	—	—	—	7.4
Mersa Matruh (A)	1017.1	— 0.3	16.8	— 1.4	7.9	— 0.4	12.4	11.9	— 1.0	8.8	— 1.0	65	0	—	—	—	8.3
Alexandria (A)	1017.2	— 0 5	17.5	— 1.0	7.9	— 1.4	12.7	12.7	— 0.9	9.5	— 1.5	63	— 7	192.0	322.3	60	5.2
Port Said (A)	1016 7	— 0.7	16.7	— 1.4	10.0	— 1.4	13.4	13.0	— 1.3	10.3	— 1.6	69	— 4	213.3	322.3	66	4.3
El Arish	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ghazza	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tanta	1016.8	— 0 6	17.9	— 1.8	7.1	+ 0.9	12.5	11.9	— 0.7	8.7	— 1.3	63	— 7	227.3	323.4	70	3.8
Cairo (A)	1017.9	— 0.1	17.7	— 1.3	8.6	— 0.2	13.2	13.0	— 0.8	8.7	— 1.4	52	— 7	—	—	—	11.4
Fayoum	1017.9	— 0.4	18.6	— 1 8	5.0	— 1.3	11.8	11.4	— 1.9	8.4	— 1.5	64	+ 3	—	—	—	3.5
Minya (A)	1019.1	+ 0.5	19.5	— 1.2	3.2	— 0.8	11.4	11.0	— 0 9	7.2	— 1.0	54	— 4	254.8	328.8	77	4.5
Assyout (A)	1018.8	+ 0.3	19.5	— 1 3	6.1	— 0.7	12.8	12.4	— 1.2	7.7	— 0.7	47	+ 1	—	—	—	8.2
Luxor (A)	1018.2	+ 1.1	21.9	— 1.2	4.7	— 0.9	13.3	13.1	— 1.1	8.5	— 1.0	49	— 3	—	—	—	4.6
Aswan (A)	1017.9	+ 0.9	22.4	— 1.8	7.3	— 1.1	14.9	14.6	— 1.4	7.9	— 1.2	32	— 1		—	—	9.2
Siwa	1018.2	— 0.5	18.1	— 1.6	5.6	+ 1.3	11.9	11.6	— 0.3	7.3	— 0.6	49	— 3	—	—	—	6.7
Bahariya	1019.1	+ 0.5	18.9	— 1.1	5.6	— 0.7	12.3	12.0	— 1.7	6.7	— 1.7	40	—10	—	—	—	5.8
Farafra	1020.8	+ 0.5	18.8	— 2.0	2.9	— 2.5	10.8	10.6	— 2.0	6.3	— 0.3	48	+ 6	—	—	—	8.1
Dakhla	1019.7	+ 1.6	20.3	— 1.2	1.7	— 2.6	11.0	10.9	— 1.6	5.8	— 1.2	40	+ 3	—	—	—	7.6
Kharga	1019.0	+ 1.0	21.2	0.0	4.9	— 1.0	13.1	13.2	— 1.0	6.9	— 1.9	38	— 7	294.6	333.8	88	9.2
Tor	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hurghada	1017.2	+ 0.5	20.3	— 0 5	8.4	— 1.3	14.4	14.4	— 1.5	9.7	— 1.3	50	— 2	—	—	—	12.3
Quseir	1017.5	+ 1.0	21.5	— 1.1	12.6	— 1.2	17.1	17.1	— 1.2	11.7	— 1.2	48	— 1	—	—	—	12.3

Table A2. – MAXIMUN AND MINIMUM AIR TEMPERATURES

JANUARY — 1968

Station	Maximum Temperature °C									Grass Miu. Temp.		Minimum Temperature °C							
	Highest	Date	Lowest	Date	No. of Days with Max-Temp.					Mean	D. From Normal	Highest	Date	Lowest	Date	No. of Days with Min. Temp.			
					≥25	≥30	≥35	≥40	≥45							<10	<5	<0	<-5
Sallum	21.4	2	10.6	15	0	0	0	0	0	8.3	—	14.0	2	4.0	14, 15	24	2	0	0
Mersa Matruh (A)	21.0	2	10.0	14	0	0	0	0	0	—	—	13.2	2	4.5	14	29	2	0	0
Alexandria (A)	20.6	2	12.0	14	0	0	0	0	0	—	—	14.9	3	2.5	11	25	5	0	0
Port Said (A)	19.8	3	11.0	15	0	0	0	0	0	—	—	15.0	3	4.4	15	14	1	0	0
El Arish	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ghazza	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tanta	21.0	2	10.4	15	0	0	0	0	0	—	—	13.4	3	3.0	23	28	6	0	0
Cairo (A)	22.4	2	12.2	8	0	0	0	0	0	—	—	15.2	3	4.6	15	26	1	0	0
Fayoum	22.4	1	13.1	15	0	0	0	0	0	3.3	—	11.1	3	1.5	22.30	29	21	0	0
Minya (A)	24.5	3	13.5	15	0	0	0	0	0	— 1.1	—	8.2	5	-0.8	28	31	25	1	0
Assyout (A)	25.3	2	12.3	15	1	0	0	0	0	4.7	—	10.8	4	3.1	16	30	9	0	0
Luxor (A)	28.8	4	12.7	15	4	0	0	0	0	1.9	—	9.8	6	0.6	16	31	19	0	0
Aswan (A)	28.5	4	15.0	15	10	0	0	0	0	—	—	12.6	4	1.6	16	27	5	0	0
Siwa	23.3	2	13.0	15	0	0	0	0	0	4.0	—	11.5	17	-0.2	22	27	12	1	0
Pahariya	26.5	2	12.6	5	1	0	0	0	0	4.0	—	12.9	3	0.8	11.30	28	13	0	0
Farafra	27.0	2	12.0	15	1	0	0	0	0	2.6	—	9.9	3	-2.6	11	31	24	4	0
Dakhla	27.4	3	12.2	15	5	0	0	0	0	—	—	8.6	4	-3.4	14	31	26	12	0
Kharga	27.6	3	13.6	15	4	0	0	0	0	3.4	—	13.8	4	0.1	11.16	28	17	0	0
Tor	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hurghada	24.8	4	14.5	15	0	0	0	0	0	7.6	—	12.0	5	5.8	31	25	0	0	0
Quseir	28.0	9	17.0	15	3	0	0	0	0	11.8	—	16.4	4	9.4	16	2	0	0	0

Table A 3.—SKY COVER AND RAINFALL

JANUARY — 1968

Station	Mean Sky Cover Oct.					Rainfall mms.										
	00 U.T.	06 U.T.	12 U.T.	18 U.T.	Daily Mean	Total Amount	D. From Normal	Max. Fall in one day		Number of Days with Amount of Rain						
								Amount	Date	<0.1	≥0.1	≥1.0	≥5.0	≥10	≥25	≥50
Sallum (A)	4.1	3.1	4.1	2.6	3.4	5.3	-13.5	3.0	14	2	5	2	0	0	0	0
Mersa Matruh (A)	2.3	3.9	4.1	3.3	3.3	13.5	-17.2	6.0	14	3	7	2	1	0	0	0
Alexandria (A)	2.5	4.4	5.2	3.0	3.7	39.6	9.5	12.1	14	1	11	9	2	1	0	0
Port Said (A)	--	1.9	4.0	--	—	16.9	+ 4.4	5.4	14	0	8	4	1	0	0	0
El Arish	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Ghazza	--		--	—	—	—	—	-		-	-			-	-	
Tanta	1.5	3.1	3.8	1.7	2.3	6.1	4.1	2.4	15	6	7	2	0	0	0	6
Cairo (A)	2.0	3.1	3.9	2.2	2.9	5.0	-0.1	2.2	30	0	6	2	0	0	0	0
Fayoum	—	3.0	3.4	2.8	.	0.1	0.9	0.1	30	1	1	0	0	0	0	0
Minya (A)	1.6	2.5	3.0	2.3	2.2	Tr.	0.4	Tr.	14	1	0	0	0	0	0	0
Assyout (A)	0.9	1.5	2.2	1.3	1.4	0.0	— Tr.	0.0		0	0	0	0	0	0	0
Luxor (A)	1.2	1.8	2.2	2.0	1.8	0.0	-0.1	0.0	--	0	0	0	0	0	0	
Aswan	1.2	2.0	1.8	1.5	0.6	0.0	0.0	0.0		0	0	0	0	0	0	0
Siwa	1.9	2.0	3.4	2.1	2.3	0.7	0.2	0.7	13	0	1	0	0	0	0	0
Bhariya	1.8	2.8	3.0	2.2	2.3	Tr.	0.0	Tr.	14	1	0	0	0	0	0	0
Frafra	.	2.0	2.1	2.1	-	0.0	- Tr.	0.0		0	0	0	0	0	0	0
Dkhla	0.2	0.5	0.8	0.4	0.5	0.0	— Tr.	0.0		0	0	0	0	0	0	0
Kharga	0.7	1.1	1.6	0.9	1.2	0.0	0.1	0.0		0	0	0	0	0	0	0
Tor	.	.	.	.	.	—	—	—		—	.	.	—	.	—	—
Hurghada	1.2	1.8	2.6	1.7	1.7	0.0	— Tr.	0.0		0	0	0	0	0	0	0
Quseir	0.4	2.1	2.2	1.2	1.5	0.0	— Tr.	0.0		0	0	0	0	0	0	0

Table A 4. — DAYS OF OCCURRENCE OF MISCELLANEOUS WEATHER PHENOMENA.

JANUARY 1968

Station	Precipitation				Frost	Thunderstorm	Mist Vis > 1000 metres	Fog Vis < 1000 Metres	Haze Vis > 1000 Metres	Thick Haze Vis < 1000 Metres	Dust or Sandrising Vis > 1000 Metres	Dust or Sandstorm Vis < 1000 Metres	Gale	Clear Sky	Cloudy Sky
	Rain	Snow	Ice Pellets	Hail											
Sallum (A)	5	0	0	0	0	1	0	0	0	0	3	5	2	10	5
Mersa Matruh (A)	7	0	0	0	0	0	0	0	1	0	5	3	3	12	5
Alexandria (A)	11	0	0	0	0	0	1	2	1	0	3	3	1	4	4
Port Said (A)	8	0	0	0	0	0	0	0	0	0	2	1	0	—	—
Al Arish	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ghazza	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tanta	7	0	0	0	0	0	6	0	0	0	4	0	0	14	1
Cairo (A)	6	0	0	0	0	0	7	0	11	0	10	3	0	14	2
Fayoum	1	0	0	0	0	0	2	0	0	0	1	0	0	—	—
Minya (A)	0	0	0	0	0	0	9	0	11	0	0	0	0	8	0
Assyout (A)	0	0	0	0	0	0	0	0	4	0	5	0	0	21	0
Luxor (A)	0	0	0	0	0	0	0	0	7	1	4	1	0	20	1
Aswan (A)	0	0	0	0	0	0	0	0	4	0	12	0	0	17	0
Siwa	1	0	0	0	0	0	0	0	0	0	3	0	0	19	4
Bahariya	0	0	0	0	0	0	0	0	0	0	4	1	0	16	2
Farafra	0	0	0	0	0	0	0	0	4	0	6	2	1	—	—
Dakhla	0	0	0	0	0	0	0	0	13	0	13	0	0	24	0
Kharga	0	0	0	0	0	0	0	0	4	0	5	0	0	24	0
Tor	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hurghada	0	0	0	0	0	0	0	0	0	0	1	1	1	23	2
Queir	0	0	0	0	0	0	0	0	6	0	5	1	0	21	0

Table A 5.—NUMBER IN HOURS OF OCCURRENCES OF CONCURRENT SURFACE WIND SPEED AND DIRECTION RECORDED WITHIN SPECIFIED RANGES

JANUARY — 1968

Station	Calm (hours)	Variable (hours)	Unrecorded (hours)	Wind speed in knots	Number in hours of occurrences of wind blowing from the ranges of directions indicated												All directions
					345 / 014	015 / 044	045 / 074	075 / 104	105 / 134	135 / 164	165 / 194	195 / 224	225 / 254	255 / 284	285 / 314	315 / 344	
Sallum	10	0	0	1–10	19	10	9	11	14	11	13	15	17	32	47	38	236
				11–27	2	0	0	0	0	3	1	17	80	200	145	31	479
				28–47	0	0	0	0	0	0	0	0	1	14	3	1	19
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**21**	**10**	**9**	**11**	**14**	**14**	**14**	**32**	**98**	**246**	**195**	**70**	**734**
Mersa Matruh (A)	9	0	2	1–10	9	9	1	1	9	18	25	22	30	43	31	14	212
				11–27	30	20	0	0	2	8	18	24	99	149	90	37	477
				28–47	0	0	0	0	0	0	0	2	2	29	11	0	**44**
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**39**	**29**	**1**	**1**	**11**	**26**	**43**	**48**	**131**	**221**	**132**	**51**	**733**
Alexandria (A)	3	0	0	1–10	5	23	24	26	32	21	42	97	24	13	39	36	382
				11–27	0	0	0	1	2	3	10	46	91	61	60	55	329
				28–47	0	0	0	0	0	0	0	2	23	5	0	0	30
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**5**	**23**	**24**	**27**	**34**	**24**	**52**	**145**	**138**	**79**	**99**	**91**	**741**
Port Said (A)	1	1	0	1–10	5	24	48	20	26	42	56	79	74	53	18	14	459
				11–27	0	0	1	0	1	9	48	95	61	31	15	0	261
				28–47	0	0	0	0	0	0	12	7	3	0	0	0	22
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**5**	**24**	**49**	**20**	**27**	**51**	**116**	**181**	**138**	**84**	**33**	**14**	**742**
Tanta	61	0	3	1–10	13	25	19	12	22	52	132	190	77	30	2	12	586
				11–27	0	0	0	0	0	1	24	55	7	4	3	0	94
				28–47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**13**	**25**	**19**	**12**	**22**	**53**	**156**	**245**	**84**	**34**	**5**	**12**	**680**
Cairo (A)	25	0	6	1–10	8	25	21	33	20	41	64	67	55	41	42	20	437
				11–27	0	0	0	0	1	9	35	99	53	53	12	3	265
				28–47	0	0	0	0	0	0	1	9	0	1	0	0	11
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**8**	**25**	**21**	**33**	**21**	**50**	**100**	**175**	**108**	**95**	**54**	**23**	**713**
Fayoum	53	1	12	1–10	58	43	17	15	13	31	70	125	117	71	44	30	634
				11–27	1	0	0	0	0	0	3	8	20	10	0	2	44
				28–47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**59**	**43**	**17**	**15**	**13**	**31**	**73**	**133**	**137**	**81**	**44**	**32**	678
Minya (A)	0	6	1	1–10	113	15	1	1	21	128	46	28	30	44	56	136	619
				11–27	29	0	0	0	0	8	1	1	6	22	26	25	118
				28–47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**142**	**15**	**1**	**1**	**21**	**136**	**47**	**29**	**36**	**66**	**82**	**161**	**737**

Table A 5 (*contd*)—NUMBER IN HOURS OF OCCURRENCE OF CONCURRENT SURFACE WIND SPEED AND DIRECTION RECORDED WITHIN SPECIFIED RANGES

JANUARY — 1968

Station	calm (hours)	Variable (hours)	Unrecorded (hours)	Wind speed in knots	Number in hours of occurrences of wind blowing from the ranges of directions indicated												
					345 / 014	015 / 044	045 / 074	075 / 104	105 / 134	135 / 164	165 / 194	195 / 224	225 / 254	255 / 284	285 / 314	315 / 344	All directions
Asyout (A)	16	0	2	1–10	13	15	16	27	31	31	12	9	20	184	112	68	538
				11–27	9	0	2	0	3	2	1	5	15	36	57	58	188
				28–47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**22**	**15**	**18**	**27**	**34**	**33**	**13**	**14**	**35**	**220**	**169**	**126**	**726**
Luxor (A)	14	58	0	1–10	71	50	22	38	33	27	89	41	34	70	84	90	649
				11–27	2	0	0	0	0	0	0	0	0	1	13	7	23
				28–47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**73**	**50**	**22**	**38**	**33**	**27**	**89**	**41**	**34**	**71**	**97**	**97**	**672**
Aswan (A)	34	12	2	1–10	2	3	9	48	33	17	23	39	117	187	40	12	530
				11–27	1	0	0	0	4	6	9	3	33	71	36	1	164
				28–47	0	0	0	0	0	0	0	0	0	2	0	0	2
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**3**	**3**	**9**	**48**	**37**	**23**	**32**	**42**	**150**	**260**	**76**	**13**	**696**
Siwa	34	12	2	1–10	2	3	9	48	33	17	23	39	117	187	40	12	530
				11–27	1	0	0	0	4	6	9	3	33	71	36	1	164
				28–47	0	0	0	0	0	0	0	0	0	2	0	0	2
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**3**	**3**	**9**	**48**	**37**	**23**	**32**	**42**	**150**	**260**	**76**	**13**	**696**
Dakhla	0	11	60	1–10	49	27	17	19	36	12	43	28	55	84	127	118	615
				11–27	7	7	0	0	0	0	0	0	0	0	15	29	**58**
				28–47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**56**	**34**	**17**	**19**	**36**	**12**	**43**	**28**	**55**	**84**	**142**	**147**	**673**
Kharga	31	2	7	1–10	129	45	30	9	17	10	12	7	10	49	83	168	569
				11–27	61	2	0	0	0	0	0	0	0	5	12	55	135
				28–47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**190**	**47**	**30**	**9**	**17**	**10**	**12**	**7**	**10**	**54**	**95**	**223**	**704**
Hurghada	15	0	0	1–10	20	20	9	5	5	5	3	6	6	36	103	21	239
				11–27	70	1	0	0	0	0	0	0	1	35	202	153	462
				28–47	5	0	0	0	0	0	0	0	0	0	12	11	28
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**95**	**21**	**9**	**5**	**5**	**5**	**3**	**6**	**7**	**71**	**317**	**185**	**729**
Quseir	1	1	2	1—10	43	48	6	8	8	3	5	19	45	178	110	28	501
				11—27	49	0	0	0	0	0	0	2	8	61	45	74	239
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				— 48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**92**	**48**	**6**	**8**	**8**	**3**	**5**	**21**	**53**	**239**	**155**	**102**	**740**

Table B 1. UPPER AIR CLIMATOLOGICAL DATA

JANUARY – 1968

Station	Pressure Surface (Millibar)	Altitude of Pressure Surface (gpm)				Temperature (°C)				Dew Point (°C)	
		N	Mean	Highest	Lowest	N	Mean	Highest	Lowest	N	Mean
Mersa Matruh 0000 U.T.			*	*	*						
	Surface	2	1020m.b.	1023m.b.	1017m.b.	2	12.0	13.5	10.5	2	7.8
	1000	2	196	220	172	2	11.8	16.4	13.1	2	9.6
	850	2	1557	1564	1550	2	10.0	12.4	7.7	1	4.8
	700	2	3142	3144	3141	2	0.6	1.3	0.1	1	0.1
	600	2	4368	4371	4364	2	— 6.0	— 5.2	6.8	1	5.5
	500	2	5770	5781	5758	2	15.6	14.0	17.3	2	— 21.4
	400	2	7414	7439	7390	2	27.4	25.4	29.5	2	28.0
	300	2	9416	9459	9372	2	42.8	41.4	44.3	—	—
	250	2	10622	10669	10576	2	51.0	50.7	51.2	—	—
	200	2	12064	12110	12019	2	52.9	52.8	53.8	—	—
	150	2	13882	13921	13843	2	61.2	60.3	62.0	—	—
	100	1	16319	—	—	1	67.8	—	—	—	—
	70	1	18480	—	—	1	65.7	—	—	—	—
	60	1	19417	—	—	1	65.0	—	—	—	—
	50	1	20537	—	—	1	62.4	—	—	—	—
	40	1	21926	—	—	1	59.3	—	—	—	—
	30	1	23746	—	—	1	56.4	—	—	—	—
	20	1	26304	—	—	1	—58.7	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—
Helwan 0000 U.T.			*	*	*						
	Surface	9	1091m.b.	1095m.b.	997m.b.	9	11.0	16.1	8.0		
	1000	9	157	182	119	7	10.5	12.9	8.8	9	2.9
	850	9	1508	1548	1478	9	7.6	16.5	0.9	7	1.2
	700	9	3092	3155	3046	9	1.7	5.1	1.3	7	4.0
	600	9	4317	4392	4270	9	— 6.4	— 3.2	9.2	4	— 5.8
	500	9	5722	5802	5670	9	14.9	13.4	16.6	1	19.0
	400	9	7377	7477	7301	9	26.1	21.1	30.2	4	20.0
	300	9	9398	9542	9302	9	39.8	33.8	45.2	4	30.7
	250	9	10628	10797	10527	9	48.0	41.7	56.9	—	—
	200	8	12080	12281	11984	8	55.3	49.5	58.0	—	—
	150	8	13872	14133	13757	8	65.3	57.1	70.1	—	—
	100	6	16306	16648	16195	6	70.6	66.0	74.6	—	—
	70	3	18357	18410	18300	3	68.8	66.6	72.0	—	—
	60	3	19274	19335	19217	3	66.3	64.8	67.8	—	—
	50	3	20379	20452	20317	3	66.3	62.6	68.9	—	—
	40	2	21749	21835	21663	2	63.6	60.0	67.2	—	—
	30	2	23522	23646	23399	2	61.4	55.7	67.0	—	—
	20	1	26242	—	—	1	53.0	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—

N = The number of cases the element has been observed during the month.

* The atmospheric pressure corrected to the elevation of the radiosonde station.

Note = No upper air observation were taken this month in Aswan at 0000 & 1200 U. T. and in Mersa Matruh & Helwan at 1200 U. T.

Table B 2.–MEAN AND EXTREME VALUES OF THE FREEZING LEVEL AND THE TROPOPAUSE. THE HIGHEST WIND SPEED IN THE UPPER AIR

JANUARY 1968

	Station	Freezing level									First Tropopause									Highest wind speed			
		Mean			Highest			Lowest			Mean			Highest			Lowest						
		Altitude (gpm)	Pressure (mb.)	Dew point (°C)	Altitude (gpm)	Pressure (mb.)	Dew point (°C)	Altitude (gpm)	Pressure (mb.)	Dew point (°C)	Altitude (gpm)	Pressure (mb.)	Temperature (°C)	Altitude (gpm)	Pressure (mb.)	Temperature (°C)	Altitude (gpm)	Pressure (mb.)	Temperature (°C)	Altitude (gpm)	Pressure (mb.)	Direction (000 - 360)°	Speed in Knots
0000 U.T.		(N)	(N)	(N)							(N)	(N)	(N)										
	Mersa Matruh (A)	3255 (2)	688 (2)	-1.2 (1)	3380	676	-1.2	3130	701		11285 (2)	22 (2)	-73.9 (2)	11300	224	53.2	11270	227	-54.6	12100	201	266	153
	Helwan	3037 (9)	698 (9)	-14.1 (4)	3870	637	-6.8	1600	840	—	14118 (6)	143 (6)	-70.3 (6)	14950	123	-71.5	13100	167	-64.6	13490	162	310	148
	Aswan . . . (A)	— —	— —	— —	—	—	—	—	—	—	— —	— —	— —	—	—	—	—	—	—	—	—	—	—

Table B 3.—NUMBER OF OCCURRENCES OF WIND DIRECTION WITHIN SPECIFIED RANGES AND THE MEAN SCALAR WIND SPEED AT THE STANDARD AND SELECTED PRESSURE SURFACES.

MERSA MATRUH (A) JANUARY 1968

Time	Pressure Surface (Millibar)	Wind between ranges of direction (000–360)°																						Number of Calm winds	Total Number of Observations (TN)	Mean Scalar wind Speed (Knots)
		345–014		015–044		045–074		075–104		105–134		135–164		165–194		195–224		225–254		255–284		285–314		315–344				
		N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m			
0000 U.T.	Surface	0	--	0	-	0		0	—	0		1	16	1	10	0		0		0		0	-	0		0	12	13
	1000	0		0		0		0		1	11	0		1	21	0	--	0	--	0	--	0	-	0		0	12	16
	850	0		0		0		0		0		0		1	12	0		1	22	0	--	0		0		0	12	17
	700	0		0	-	0		0		0		0		0		1	21	0		0		1	12	0		0	12	32
	600	0		0	-	0		0		0		0		0		0	-	1	18	1	51	0		0		0	12	34
	500	0		0	-	0		0		0		0		0		0	-	1	34	1	60	0		0		0	12	47
	400	0		0		0		0		0		0		0		0		0		2	62	0		0		0	12	62
	300	0	-	0		0		0		0	-	0		0		0		0		2	90	0		0		0	12	90
	250	0		0		0		0		0	-	0		0		0		0		2	78	0		0		0	12	78
	200	0		0		0		0		0		0		0		0	-	0		1	101	0		0		0	12	101
	150	0	—	0		0		0	-	0		0		0		0	-	0		1	125	0		0		0	12	125
	100	0	-	0		0		0		0		0		0		0		0		1	68	0		0		0	12	68
	70	0		0		0		0		0		0		0		0		0		1	59	0		0		0	12	59
	60	--	-	-	-	—	-	-											—		-							—
	50	--		-				—																				
	40		-		-												-			-								
	30																						—					
	20	--																										
	10			--	-																							

N = The number of cases the element has been observed during the month,

TN = The total number of cases the wind has been observed for all directions during the month,

Table B 3.(*contd.*)– NUMBER OF OCCURRENCES OF WIND DIRECTION WITHIN SPECIFIED RANGES AND THE MEAN SCALAR WIND SPEED AT THE STANDARD AND SELECTED PRESSURE SURFACES.

HELWAN JANUARY 1968

Time	Pressure Surface (Millibar)	Wind between ranges of direction (000–360)°																								Number of Calm winds	Total Number of Observations (TN)	Mean Scalar wind Speed (Knots)
		315 / 014		015 / 044		045 / 074		075 / 104		105 / 134		135 / 164		165 / 194		195 / 224		225 / 254		255 / 284		285 / 314		315 / 344				
		N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m			
0000 U.T.	Surface	0	—	1	7	1	17	1	5	3	4	0	—	0	—	0	—	1	10	0		0	-	1	4	1	9	6
	1000	0	—	0	—	1	16	2	23	1	4	1	6	0	—	0	—	0	-	0	—	0		1	4	1	7	11
	850	0		0		0	—	0	-	1	4	0		0		1	23	1	16	3	22	2	22	1	21	0	9	19
	700	0	—	0		0	-	0	-	0	-	0		0		1	15	0	-	7	43	0		1	61	0	9	42
	600	0	—	0	—	0	-	0	-	0	-	0		0		0	-	0	-	5	68	2	25	0		0	7	55
	500	0	—	0		0	—	0	-	0	-	0		0		0		0	-	4	61	1	29	0	-	0	5	54
	400	0	—	0		0	-	0	-	0	-	0		0		0		0		3	81	1	30	0		0	4	68
	300	0	—	0		0	-	0	-	0	-	0		0		0		0		0	-	1	78	0		0	1	78
	250	0	—	0		0	-	0	-	0	-	0		0		0		0	-	0	-	1	68	0		0	1	68
	200	0	—	0		0	—	0		0	-	0		0		0		0		0	-	1	129	0		0	1	129
	150	—	—	-		0	—	—		-	-	-		-		-		-		-	-	-	-	-		-	-	-
	100	—	—	—	—	—	—	—	-	-	-	—		-	-	-	-	-		-	-	-	-	-	-	—	—	—
	70	—	-	—	—	—	—	—	—	—	-	-		-	-	-	-	-		-	-	-	-	-	-	-	-	-
	60	—	—	—	—	—	—	—	—	—	-	—		-	-	-	-	-		-	-	-	-	-	-	-	-	-
	50	—	—	—	—	—	—	—	—	-	-	—	—	—	—	—	—	—		-	-	-	-	-	-	-	-	—
	40	—	—	-	-	—	—	-	-	-	-	—	—	—	—	—	—	—	-	-	-	-	-	-	-	-	-	—
	30	—	—	-	-	-	-	-	-	-	-	-	—	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	20	—	—	—	—	—	—	—	—	—	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	10	—	—	—	—	—	—	—	—	—	-	—	-	-	-	—	—	—	-	-	-	-	-	-	-	—	—	—

N = The number of cases the element has been observed during the month,

TN = The total number of cases the wind has been observed for all directions during the month,

REVIEW OF AGRO-METEOROLOGICAL STATION AT EL KASR
JANUARY 1968

This month was slightly cooler and less rainy than normal. The daily maximum air temperatures were slightly above normal most of the first week, and below normal most of the rest of the month. The month was characterized in particular by a pronounced cold wave during the period (12th - 16th) yeilding the lowest maximum air temperature for the month (10.9°C) and the maximum amount of rainfall in one day (9.2 mms.) on the 14th.

The extreme maximum soil temperatures were lower than the corresponding values of last January at depths between 2 & 20 cms and the differences ranged between 1.6°C at 5cms depth & 0.3°C at 20 cms. At depths between 50 & 100 cms., the extreme soil maxima were higher than last January, and the differences ranged between 0.7 & 0.1°C. The extreme minimum soil temperatures were higher than the corresponding values of last January at depths between 2 & 10 cms. and also at 100 cms depth, and the differences ranged between 1.2°C at 5 cms depth & 0.2°C at both 10 & 100 cms. depths. At 20 & 50 cms depths the extreme soil minima were lower than last January, and the differences ranged between 0.2° and 0.5°C.

The mean daily pan evaporation was 0.09 mms. less than the corresponding value of January 1967. The total actual duration of bright sunshine was 45.3 hours less than the corresponding value of January 1967.

REVIEW OF AGRO-METEOROLOGICAL STATION AT TAHRIR
JANUARY 1968

Compared with last January, this month was slightly warmer and more rainy. The daily maximum air temperatures were slightly above normal during the first three days of the month and on the 20th. and below normal during the rest of the month. The month was characterized by two pronounced cold waves during the periods (12th-16th) and (27th - 31st). The first cold wave was the most pronounced and yielded the lowest maximum air temperature for the month (11.5°C) on the 15th.

The extreme maximum soil temperatures were higher than the corresponding values of last January at all depths between 2 & 50 and the differences ranged between 0.1.°C at 2 cms depth and 1.1°C at both 10 & 20 cms. At 100 cms depth the extreme maximum soil temperature was 0.4°C lower than last January. The extreme minimum soil temperatures were also higher than last January at all depths between 2 and 50 cms. and the differences ranged between 2.1°C at 2 cms and 0.6°C at 50 cms. At 100 cms depth the extreme minimum soil temperature was 0.4°C lower than last January.

The mean daily pan evaporation was 1.22 mms. more than the corresponding value of January 1967. The total actual duration of bright sunshine was 16.4 hours less than the corresponding value of January 1967.

REVIEW OF AGRO-METEOROLOGICAL STATION AT BAHTIM

JANUARY 1968

This month was cooler and more rainy than normal. The daily maximum air temperatures at 1.5 metres above ground were slightly above normal on the 2nd and 3rd only, and below normal during the rest of the month. The month was characterized in particular by two pronounced cold waves during the periods (12th - 16th) and 29th - 31st) respectively. The first cold wave was associated with the lowest maximum air temperature for the month (12.4°C) on the 15th.

The second cold wave was associated with the lowest minimum air temperature for the month (0°C) and the maximum amount of rainfall in one day (4.3 mms.) on the 30th. The minimum air temperature at 5 cms above ground fell below 0°C on five days. Its values on their five days are given in the following table :

Date	11	22	23	29	30
Minimum air temperature at 5 cms above ground (°C)	1.6°	-1.7	-0.2	-1.8	-3.6

REVIEW OF AGRO - METEOROLOGICAL STATION AT KHARGA

JANUARY 1963

This month was slightly cooler than normal and rainless. The month was characterized by a warm period from the 1st till the 5th and three cold waves during the periods : (10th - 11th), (13th - 18th) & (24th - 31st). The second cold wave was the most pronounced and yielded the lowest maximum air temperature for the month (13.6°C) on the 15th.

The extreme maximum soil temperatures were higher than the correspnoding values of last January at all depths between 2 & 50 cms., and the differences ranged between 4.5°C at 2 cms. depth & 1.0°C at 50 cms. At 100 cms. depth the value was slightly (0.4°C) lower than last January. The extreme minimum soil temperatures were higher than the corresponding values of last January at 25 & 50 cms. depths and the differences ranged between 0.2°C & 0.6°C. At 10, 20 & 100 cms. depths the extreme soil minima were lower than last January, and the differences ranged between 1.1°C at 10 cms. depth & 0.1°C at 100 cms.

The mean daily pan evaporation was 0.12 mms. more than the corresponding value of January 1967. The total actual duration of bright sunshine was 24.1 hours less than the corresponding value of January, 1967.

Table C1.—AIR TEMPERATURE AT 1½ METRES ABOVE GROUND
JANUARY 1968

STATION	Air Temperature (°C)					Mean Duration in hours of daily air temperature above the following values										
	Mean Max.	Mean Min.	Mean of the day	Night time mean	Da time mean	—5°C	0°C	5°C	10°C	15°C	20°C	25°C	30°C	35°C	40°C	45°C
El Kasr	17.1	7.8	12.2	10.4	14.0	24.0	24.0	24.0	16.8	5.4	0.1	0.0	0.0	0.0	0.0	0.
Tahrir	18.3	6.6	11.8	9.5	14.2	24.0	24.0	23.1	14.3	6.7	0.1	0.0	0.0	0.0	0.0	0.
Bahtim	17.9	5.3	11.0	8.5	13.6	24.0	24.0	21.9	13.3	4.9	0.3	0.0	0.0	0.0	0.0	0
Kharga	21.2	5.0	13.2	10.1	16.4	24.0	24.0	21.9	16.6	9.4	2.9	0.3	0.0	0.0	0.0	0.

Table C 2.— ABSOLUTE VALUES OF AIR TEMPERATURE AT 1½ METRES ABOVE GROUND, ABSOLUTE MINIMUM AIR TEMPERATURE AT 5cms ABOVE GROUND OVER DIFFERENT FIELDS.
JANUARY 1968

STATION	Max. Temp. at 1½ metres (°C)				Min. Temp. at 1½ metres (°C)				Min. Temp. at 5 cms. above (°C)			
	Highest		Lowest		Highest		Lowest		Dry soil		Grass	
	Value	Date	Value	Date	Value	Date	Value	Date	Value	Date	Value	Date
El Kasr	20.8	2	10.9	14	13.0	2	4.1	11	0.4	22	—	—
Tahrir	22.3	2	11.5	15	13.4	3	2.9	30	0.6	30	-	-
Bahtim	22.2	2	12.4	15	11.4	3	0.0	30	—3.6	30	—	—
Kharga	27.6	3	13.6	15	13.8	4	0.1	11-16	—2.6	14		

Table C 3.—(SOLAR+SKY) RADIATION, DURATION OF BRIGHT SUNSHINE, RELATIVE HUMIDITY, VAPOUR PRESSURE AT 1½ METRES ABOVE GROUND, EVAPORATION & RAINFALL
JANUARY 1968

STATION	(Solar+Sky) Radiation gm. cal/cm²	Duration of Bright Sunshine (hours)			Relative Humidity %				Vapour pressure (mms)						Evaporation(mms)		Rainfall (mms)		
		Total Actual monthly	Total Possible monthly	%	Mean of day	1200 U.T.	Lowest	Date	Mean of day	1200 U.T.	Highest	Date	Lowest	Date	Piche	Pan class A	Total Amount Monthly	Max. Fall in one day	Date
El Kasr	291.4	214.5	320.7	67	66	54	13	28	7.4	8.1	11.1	26	3.8	28	7.0	6.57	18.4	9.2	14
Tahrir	286.6	218.3	322.7	68	69	53	25	13	7.0	7.7	11.4	1	2.4	13	5.4	4.53	5.6	2.8	30
Bahtim	—	217.0	324.1	67	67	51	28	12	6.5	7.3	11.0	3	2.4	13	5.0	4.20	5.5	4.3	30
Kharga	324.1	294.6	333.8	88	41	27	11	3	4.5	4.8	7.2	19	2.2	13,14	9.3	6.72	0.0	0.0	(

Table C 4. -EXTREME SOIL TEMPERATURE AT DIFFERENT DEPTHS IN DIFFERENT FIELDS (cms)

JANUARY --1968

STATION	Highest (H) Lowest (L)	Extreme soil temperature (°C) in dry field at different depths (cms.)								Extreme soil temperature (°C) in grass field at different depths (cms)							
		2	5	10	20	50	100	200	300	2	5	10	20	50	100	200	300
El Kasr	H	31.1	26.0	23.0	19.0	17.5	17.3	19.4	—	—	—	—	—	—	—	—	—
	L	7.1	7.4	8.8	11.3	14.1	16.2	18.8	—	—	—	—	—	—	—	—	—
Tahrir	H	26.5	23.2	20.1	17.8	17.2	18.4	21.5	23.1	—	—	—	—	—	—	—	—
	L	4.4	5.6	7.4	10.8	13.4	16.0	19.3	21.4	—	—	—	—	—	—	—	—
Bahtim	H	30.9	22.0	19.8	18.4	19.4	21.1	23.7	—	—	—	—	—	—	—	—	—
	L	3.9	6.9	11.2	14.2	17.0	19.1	22.3	—	—	—	—	—	—	—	—	—
Kharga	H	30.7	25.5	22.7	21.0	21.8	23.8	27.2	28.6	—	—	—	—	—	—	—	—
	L	2.8	5.8	10.1	14.6	19.2	22.0	25.5	27.5	—	—	—	—	—	—	—	—

Table C 5. - SURFACE WIND

JANUARY -1968

STATION	Wind Speed m/sec at 2 metres			Days with surface wind speed at 10 metres							Max, Gust (knots) at 10 metres	
	Mean of the day	Night time mean	Day time mean	≥10 knots	≥15 konts	≥20 knots	≥25 knots	≥30 knots	≥35 knots	≥40 knots	value	Date
El Kasr . . .	3.9	3.4	4.5	—	—	—	—	—	—	—	—	—
Tahrir	2.6	2.0	3.3	28	20	12	9	2	—	—	44	14
Bahtim	2.9	2.4	3.4	26	19	12	7	3	—	—	41	13
Kharga . . .	2.7	1.9	3.4	21	14	3	1	0	0	0	31	24

UNITED ARAB REPUBLIC

MONTHLY WEATHER REPORT

VOLUME 11 NUMBER 2

FEBRUARY, 1968

U.D.C. 551, 506,1 (62)

METEOROLOGICAL DEPARTMENT
CAIRO

PUBLICATIONS OF THE METEOROLOGICAL DEPARTMENT OF THE UNITED ARAB REPUBLIC—CAIRO

In fulfilment of its duties as the National Meteorological service for the U.A.R., the Meteorological Department issues several reports and publications on weather, climate and agrometeorology. The principal publications are described on this page.

Orders for publications should be adressed to :
"The Director General, Meteorological Department, Kubri-el-Qubbeh—CAIRO"

THE DAILY WEATHER REPORT

This report is printed daily in the Meteorological Department. It contains surface and upper air observations carried by the relevant networks of the Republic and made at the four main synoptic hours of observations (00, 06, 12 and 18 U.T.); as well as ship observations over the Eastern Mediterranean and north Red Sea made at the same times.

It also contains two surface synoptic charts at 00 and 12 U.T. and two upper air charts for the standard isobaric surfaces 700 & 500 mbs. at both 00 and 12 U.T. In compliance with resolution 8 (EC-XIII) of WMO, foreign upper air data included in Cairo Subregional Broadcast are also given in this report.

As from January 1968, the daily weather report contents are pressed into a rather less but representative selection of synoptic weather observations and charts.

THE MONTHLY WEATHER REPORT

First issued in 1909, the Monthly Weather Report served to give a brief summary of the weather conditions that prevailed over Egypt during the month, with a table showing the mean values for few meteorological elements and their deviations from the normal values. From 1954 to 1957 this report was in a rapid state of development and extension resulting into a voluminous report on January 1958 giving surface, upper air, and agro-meteorological data for U.A.R.

THE AGRO-METEOROLOGICAL ABRIDGED MONTHLY REPORT

Gives a review of weather experienced in the agro-meteorological stations of the U.A.R. as well as monthly values of certain elements.

THE ANNUAL REPORT

This report gives annual values and statistics for the various meteorological elements, together with a summary of the weather conditions that prevailed during all months of the year .

CLIMATOLOGICAL NORMALS FOR EGYPT

The normals, long averages and statistical data are given in one edition for stations in Egypt from the date of opening of each station up to 1945. A new voluminous edition was issued in March 1968 which brings normals and mean values up till 1960.

UNITED ARAB REPUBLIC

MONTHLY WEATHER REPORT

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METEOROLOGICAL DEPARTMENT
CAIRO

CONTENTS

GENERAL SUMMARY OF WEATHER CONDITIONS

FEBRUARY 1968

Generally cold with pronounced deficient rain. Widespread sandstorms on the 29th. Early morning low stratus & fog over Delta, Canal and Cairo areas.

GENERAL DESCRIPTION OF WEATHER

The prevailing weather this month was generally humid, cold in the northern & central parts and rather mild in the southern parts. The country enjoyed three warm periods, the last of which was the most pronounced.

Rain was light and fell in few days over the northern parts and its monthly total was subnormal and pronouncedly deficient.

Widespread rising sand and scattered sandstorms were reported by the passage of a deep frontal depression through East Mediterranean on the 29th. Scattered early morning mist and fog developed during several days over Delta, Canal & Cairo areas.

PRESSURE DISTRIBUTION

The most important features of pressure distribution during this month were:

— The Siberian anticyclone and its southwest extension to East Mediterranean.

— The Atlantic anticyclone.

— Deep low pressure systems through North Europe.

— Secondary depressions through the Mediterranean and its vicinities.

During this month, four secondary depressions were distinguished.

The first secondary Mediterranean depression developed south of Tunisia on the 4th, moved north - eastwards to Central Mediterranean on the 5th and then continued its track eastwards passing through East Mediterranean on the 7th.

The second Mediterranean depression was observed over Italy on the 12th, moved southeastwards on the 13th, then continued its motion eastwards and passed through East Mediterranean on the 14th.

The third secondary Mediterranean depression formed over Central Mediterranean on the 16th, then moved northeastwards while deepening and its southern trough traversed East Mediterranean & U.A.R. on the 18th.

The last secondary depression during this month developed over West Mediterranean on the 25th, moved slowly eastwards and passed through East Mediterranean while deepening appreciably on the 29th.

As a result of the transit of these four secondary depressions through East Mediterranean, the barometric pressure in U.A.R. showed consecutive falls round the periods: (5th - 7th), (11th - 14th), (16th - 18th) & (25th - 29th).

During the rest periods of the month, the barometric pressure experienced rises when the Siberian anticyclone extended

southwestwards to East Mediterranean, or when local high pressure established over East Mediterranean and NE Africa areas.

The most important features of pressure distribution over the 700 & 500 mb. upper air charts were.

— Two deep upper low pressure systems. one over North Atlantic and the other over North Urasia.

— Secondary upper lows (or troughs) through middle latitudes between 30° & 45°N, passing through East Mediterranean & U.A.R. on the 7th, 13th & 19th.

— Upper high pressure system south of latitude 30°N.

SURFACE WIND

Surface winds during this month were generally light to moderate and blew from the NE to SE directions in advance of the travelling Mediterranean depressions, from the SWly by their passages through East Mediterranean and from the NW in their rears. Winds became fresh to strong over scattered localities during few days, mainly by the passage of cold fronts.

Gales were reported at Sallum, Sidi Barrani, El Kasr, Mersa Matruh, Ras El Hikma and Dabaa on the 29th and over Cairo on the 19th & 29th.

TEMPERATURE

Maximum temperature was moderately below normal during the cold waves which prevailed most days of the month, and showed moderate to appreciable rises above normal during warm spells which were enjoyed round the periods (12th - 13th), (16th - 18th) & (26th-29th). Maximum air temperature values ranged generally between 16°C & 22°C in the northern parts, between 18°C & 25 °C in the central parts and between 22°C & 30°C in the southern parts.

The absolute maximum air temperature was 35.4°C reported at Nag Hammadi on the 29th.

Minimum temperature showed less variability than maximum temperature. It oscillated moderately round normal in general in the northern & southern parts and moderately below normal in the central parts. Minimum air temperature values ranged most days of the month between 6°C & 13°C in the northern & southern parts and between 0°C & 8°C in the central parts.

The absolute minimum air temperature was-3.8°C reported at Dakhla on the 3rd.

PRECIPITATION

Light rain fell during few days over scattered localities in the Mediterranean district and extended sometimes to few localities in Lower Egypt and Cairo.

For the month as a whole the monthly rainfall was subnormal and deficient particularly over the Mediterranean district

The highest daily rainfall was 13.5 mms reported at Ras El Teen on the 10th.

The highest monthly rainfall was 21.9 mms reported at Ras El Teen.

Cairo 3 / 1 / 1971

M. F. TAHA
Under Secretary of State
Director General
Meteorological Department

Table A 1.– MONTHLY VALUES OF THE ATMOSPHERIC PRESSURE, AIR TEMPERATURE, RELATIVE HUMIDITY, BRIGHT SUNSHINE DURATION & PICHE EVAPORATION

FEBRUARY — 1968

STATION	Atmospheric Pressure (mbs) M.S.L.		Air Temperature °C								Relative Humidity %		Bright Sunshine Duration (Hours)			Piche Evaporation mms.
			Maximum		Minimum			Dry Bulb		Wet Bulb						
	Mean	D.F. Normal or Average	(A) Mean	D.F.Normal or Average	(B) Mean	D.F. Normal or Average	$\frac{A+B}{2}$	Mean	D.F. Normal or Average	Mean	D.F. Normal or Average	Mean	D.F. Normal or Average	Total Actual	Total Possible	%	Mean
Sallum	1016.9	−0.4	20.1	+0.4	11.0	+1.3	15.5	15.2	+0.6	10.7	+0.2	53	— 1	—	—	—	6.2
Mersa Matruh. (A)	1017.6	+0.5	19.2	+0.4	8.6	+0.2	13.9	13.7	+0.3	10.0	−0.8	59	— 4	—	—	—	7.9
Alexandria (A)	1017.8	+0.6	19.3	+0.1	8.9	−0.6	14.1	13.9	−0.3	10.7	−0.5	65	— 3	231.5	322.0	72	4.7
Port Said. (A)	1017.3	+0.4	18.4	−0.2	11.8	−0.2	15.1	14.7	−0.1	11.6	−0.4	67	— 2	237.3	322.0	74	5.6
El Arish.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ghazza.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tanta.	1017.2	−0.1	20.5	−0.4	7.2	+0.6	13.8	13.2	+0.4	9.9	0.0	63	— 3	243.4	322.4	75	4.0
Cairo. (A)	1017.5	+0.1	20.7	+0.1	9.0	−0.4	14.8	14.7	−0.1	9.9	−0.6	51	— 4	—	—	—	12.0
Fayoum.	—	—	22.3	+0.3	4.9	−2.5	13.6	—	—	—	—	—	—	—	—	—	4.6
Minya. (A)	1017.6	−0.1	23.0	+0.6	4.0	−1.2	13.5	13.1	−0.2	8.5	−0.4	49	— 4	281.3	323.2	87	5.7
Assyout. (A)	1017.3	+0.1	22.5	−0.1	7.2	−0.3	14.8	14.6	−0.5	9.2	0.0	44	+ 3	—	—	—	9.6
Luxor. (A)	1016.6	+0.5	25.2	0.0	6.2	−0.5	15.7	15.7	−0.2	9.8	−0.2	41	— 1	—	—	—	6.4
Aswan. (A)	1016.3	+0.7	25.9	+0.1	9.0	−0.2	17.4	17.4	−0.1	9.3	+0.3	26	+ 2	—	—	—	11.0
Siwa	1017.4	−0.3	22.3	+0.6	6.1	+0.4	14.2	14.0	+0.1	8.8	+0.2	45	+ 1	—	—	—	8.4
Bahariya.	1018.0	+0.9	22.2	0.0	6.1	−0.2	14.2	14.1	+0.4	8.3	−0.1	39	— 6	—	—	—	7.0
Farafra.	1019.1	−0.4	22.6	+0.2	4.7	−0.7	13.6	13.5	−0.5	6.1	−1.3	35	— 5	—	—	—	9.4
Dakhla.	1017.8	−0.2	24.1	+0.4	4.5	−1.2	14.3	13.8	+0.2	7.6	+0.4	35	+ 3	—	—	—	8.6
Kharga.	1017.3	+0.3	24.6	+0.2	6.1	−1.0	15.3	16.0	+0.8	8.4	−0.3	33	— 5	301.1	327.6	92	10.8
Tor.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hurghada.	1016.2	+0.6	21.4	+0.2	9.3	−0.6	15.3	15.8	−0.7	11.1	−0.1	53	+ 5	—	—	—	10.5
Quseir	1016.7	+1.0	22.0	−1.0	12.8	−1.5	17.4	17.8	−0.5	12.6	+0.2	51	+ 6	—	—	—	11.8

Table A 2.—MAXIMUM AND MINIMUM AIR TEMPERATURES

FEBRUARY — 1968

Station	Maximum Temperature °C									Grass Min. Temp.		Minimum Temperature °C							
	Highest	Date	Lowest	Date	Ns. of Days with Max-Temp.					Mean	Dev. From Normal	Highest	Date	Lowest	Date	No. of Days with Min. Temp.			
					>25	>30	>35	>40	>45							<10	<5	<0	<-5
Sallum	29.4	28	15.4	20	5	0	0	0	0	10.4	—	16.0	17	7.8	20	11	0	0	0
Mersa Matruh (A)	28.3	28	14.8	20	4	0	0	0	0	—	—	13.6	28	2.8	22	22	1	0	0
Alexandria (A)	28.5	28	15.8	21	2	0	0	0	0	—	—	12.5	14	6.0	12.16	23	0	0	0
Port Said (A)	25.8	29	14.1	1	2	0	0	0	0	11.1	—	17.4	29	6.8	1	5	0	0	0
El Arish	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ghazza	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tanta	29.7	28	15.6	1	3	0	0	0	0	—	—	13.1	29	4.3	12	24	4	0	0
Cairo (A)	28.7	28	15.4	21	4	0	0	0	0	—	—	18.6	29	5.9	22	20	0	0	0
Fayoum	29.4	28	17.1	1	7	0	0	0	0	3.4	—	9.9	29	0.8	2	29	14	0	0
Minya (A)	29.8	28	17.2	1	8	0	0	0	0	2.2	—	9.0	29	0.1	2	29	18	0	0
Assyout (A)	32.5	29	15.7	1	7	2	0	0	0	6.4	—	16.7	29	1.7	2	25	6	0	0
Luxor (A)	34.2	29	17.2	1	14	3	0	0	0	2.5	—	11.4	19	1.7	2	27	8	0	0
Aswan (A)	33.6	29	17.2	1	18	5	0	0	0	—	—	14.8	29	3.6	2	17	3	0	0
Siwa	32.4	17	17.1	2	4	2	0	0	0	4.0	—	13.0	18	2.0	3,5	25	11	0	0
Bahariya	30.1	28	16.8	1	5	1	0	0	0	4.2	—	15.5	29	—0.1	2	26	10	1	0
Farafra	31.0	28	17.2	1,2	6	2	0	0	0	4.5	—	11.9	29	—1.3	3	27	19	2	0
Dakhla	32.2	28	16.7	1	11	2	0	0	0	—	—	12.4	29	—3.8	3	28	20	4	0
Kharga	34.6	29	17.4	2	14	3	0	0	0	3.6	—	11.5	19	0.2	3	25	8	0	0
Tor	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hurghada	25.0	27	16.6	1	0	0	0	0	0	8.6	—	17.8	29	5.6	1	20	0	0	0
Quseir	27.6	14	17.9	2	3	0	0	0	0	11.9	—	16.0	19	8.8	1	1	0	0	0

Table A 3.—SKY COVER AND RAINFALL

FEBRUARY — 1968

Station	Mean Sky Cover Oct					Rainfall mms									
	00 U.T.	06 U.T.	12 U.T.	18 U.T.	Daily Mean	Total Amount	Dev. From Normal	Max. Fall in one day		Number of Days With Amount of Rain					
								Amount	Date	< 0.1	≥ 0.1	≥ 1.0	≥ 5.0	≥ 10	≥ 25	≥ 50
Sallum	2.7	4.0	4.0	2.5	2.7	0.5	—11.0	0.2	8,9	2	3	0	0	0	0	0
Mersa Matruh (A)	2.9	4.6	4.5	2.8	3.5	4.0	—13.7	2.6	20	0	4	1	0	0	0	0
Alexandria (A)	3.1	5.4	5.2	3.2	4.0	5.0	—26.3	2.4	9	2	3	2	0	0	0	0
Port Said (A)	—	3.0	3.7	—	—	0.6	—11.4	0.5	20	3	2	0	0	0	0	0
El Arish	—	—	—	—	—	—	—	—	—	—	—	—	0	1	0	0
Ghazza	—	—	—	—	—	—	—	—	—	—	—	—	0	3	1	0
Tanta	1.1	1.9	4.1	1.3	2.0	0.2	— 7.7	0.2	20	0	1	0	0	0	0	0
Cairo (A)	1.3	3.0	4.4	2.3	2.4	0.0	— 4.7	0.0	–	0	0	0	0	0	0	0
Fayoum	—	1.8	3.8	2.0	—	tr.	— 1.4	tr.	1	1	0	0	0	0	0	0
Minya (A)	0.3	1.3	2.5	0.8	1.2	0.0	— 1.2	0.0	—	0	0	0	0	0	0	0
Assyout (A)	0.3	0.5	1.3	1.1	0.7	0.0	— 0.3	0.0	—	0	0	0	0	0	0	0
Luxor (A)	0.2	0.7	1.2	1.4	0.9	0.0	— 0.2	0.0	—	0	0	0	0	0	0	0
Aswan (A)	0.4	0.5	1.1	0.8	0.6	0.0	0.0	0.0	—	0	0	0	0	0	0	0
Siwa	0.8	1.5	2.4	1.2	1.5	tr.	— 2.5	tr.	6	1	0	0	0	0	0	0
Bahariya	0.5	1.3	2.7	0.9	1.3	0.0	— 1.2	0.0	—	0	0	0	0	0	0	0
Farafra	—	4.1	1.9	1.1	—	0.0	— tr.	0.0	—	0	0	0	0	0	0	0
Dakhla	0.0	0.0	0.8	0.4	0.6	0.0	— 0.3	0.0	—	0	0	0	0	0	0	0
Kharga	0.1	0.5	0.9	0.7	0.6	0.0	— 0.3	0.0	—	0	0	0	0	0	0	0
Tor	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hurghada	0.4	0.9	1.9	1.3	1.1	0.0	— tr.	0.0	—	0	0	0	0	0	0	0
Quseir	0.4	1.0	1.6	1.3	1.1	0.0	0.0	0.0	—	0	0	0	0	0	0	0

Table A 4.—DAYS OF OCCURRENCE OF MISCELLANEOUS WEATHER PHENOMENA

FEBRUARY — 1968

Station	Precipitation				Frost	Thunderstorm	Mist Vis ≥ 1000 metres	Fog Vis <1000 Metres	Haze Vis ≥1000 Metres	Thick Haze Vis <1000 Metres	Dust or Sandrising Vis ≥1000 Metres	Dust or Sandstorm Vis <1000 Metres	Gale	Clear Sky	Cloudy Sky
	Rain	Snow	Ice. Pellets	Hail											
Sallum.	3	0	0	0	0	0	0	0	0	0	5	1	1	7	1
Mersa Matruh. .(A)	4	0	0	0	0	0	2	0	0	0	5	1	1	5	2
Alexandria. . . .(A)	3	0	0	0	0	0	3	3	0	0	2	1	0	3	1
Port Said. . . .(A)	2	0	0	0	0	0	0	0	0	0	2	1	0	—	—
El Arish.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ghazza.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tanta.	1	0	0	0	0	0	3	3	0	1	0	0	0	17	0
Cairo. . . . . .(A)	0	0	0	0	0	0	5	1	6	1	3	2	2	8	1
Fayoum.	0	0	0	0	0	0	0	0	0	0	0	0	0	—	—
Minya. . . . . .(A)	0	0	0	0	0	0	5	0	1	0	0	0	0	19	0
Assyout. . . . .(A)	0	0	0	0	0	0	0	0	0	0	0	1	0	26	0
Luxor. . . . . .(A)	0	0	0	0	0	0	0	0	1	0	2	0	0	23	0
Aswan. . . . . .(A)	0	0	0	0	0	0	0	0	0	0	6	0	0	24	0
Siwa.	0	0	0	0	0	0	0	0	0	0	1	0	0	20	0
Bahariya.	0	0	0	0	0	0	0	0	0	0	1	0	0	22	0
Farafra.	0	0	0	0	0	0	0	0	3	0	2	0	0	—	—
Dakhla.	0	0	0	0	0	0	0	1	2	0	4	0	0	15	0
Kharga.	0	0	0	0	0	0	0	0	0	0	2	0	0	27	0
Tor.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hurghada.	0	0	0	0	0	0	0	0	0	0	0	0	0	23	0
Quseir	0	0	0	0	0	0	0	0	0	0	0	0	0	24	0

Table A 5.—NUMBER IN HOURS OF OCCURRENCES OF CONCURRENT SURFACE WIND SPEED AND DIRECTION RECORDED WITHIN SPECIFIED RANGES

FEBRUARY — 1968

Station	Calm (hours)	Variable (hours)	Unrecorded (hours)	Wind speed in knots	Number in hours of occurrences of wind blowing from the ranges of directions indicated												All directions
					345 / 014	015 / 044	045 / 074	075 / 104	105 / 134	135 / 164	165 / 194	195 / 224	225 / 254	255 / 284	285 / 314	315 / 344	
Sallum	34	0	0	1—10	25	36	46	32	36	31	13	11	15	34	86	67	432
				11—27	0	0	1	3	2	4	0	18	36	72	67	20	223
				28—47	0	0	0	0	0	0	0	0	0	7	0	0	7
				≥ 48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**25**	**36**	**47**	**35**	**38**	**35**	**13**	**29**	**51**	**113**	**153**	**87**	**662**
Mersa Matruh (A)	9	1	1	1—10	25	35	14	28	14	26	48	18	28	48	38	14	336
				11—27	39	23	6	4	17	16	26	29	62	34	28	51	335
				28—47	0	0	0	0	0	0	0	2	2	5	5	0	14
				≥ 48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**64**	**58**	**20**	**32**	**31**	**42**	**74**	**49**	**92**	**87**	**71**	**65**	**685**
Alexandria (A)	4	0	0	1—10	39	66	62	34	72	40	21	39	15	17	54	65	524
				11—27	16	11	7	0	0	0	4	11	26	25	40	28	168
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥ 48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All Speeds	**55**	**77**	**69**	**34**	**72**	**40**	**25**	**50**	**41**	**42**	**94**	**93**	**692**
Port Said (A)	4	0	0	1—10	93	99	55	38	30	21	15	27	51	42	4	8	483
				11—27	39	10	0	2	4	17	19	34	39	31	6	8	209
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥ 48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**132**	**109**	**55**	**40**	**34**	**38**	**34**	**61**	**90**	**73**	**10**	**16**	**692**
Tanta	58	0	2	1—10	52	75	27	36	24	33	45	102	63	46	53	38	594
				11—27	7	0	0	0	0	0	9	13	2	4	5	2	42
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥ 48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**59**	**75**	**27**	**36**	**24**	**33**	**54**	**115**	**65**	**50**	**58**	**40**	**636**
Cairo	41	3	17	1—10	23	53	43	45	30	32	27	33	40	42	44	53	435
				11—27	2	38	11	1	3	20	16	22	19	11	12	8	163
				28—47	0	0	0	0	0	0	2	3	2	0	0	0	7
				≥ 48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**25**	**91**	**54**	**46**	**33**	**52**	**45**	**58**	**61**	**53**	**56**	**61**	**635**
Fayoum (A)	32	0	7	1—10	83	154	28	14	7	54	42	48	68	42	25	59	624
				11—27	0	12	0	0	0	0	1	7	12	0	0	1	33
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥ 48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**83**	**166**	**28**	**14**	**7**	**54**	**43**	**55**	**80**	**42**	**25**	**60**	**657**
Minya	20	3	26	1—10	110	1	3	3	14	96	27	11	20	17	40	143	565
				11—27	49	0	0	0	0	2	4	1	4	1	6	15	82
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥ 48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**239**	**1**	**3**	**3**	**14**	**98**	**31**	**12**	**24**	**18**	**46**	**158**	**647**

Table A 5. (*contd.*)—**NUMBER IN HOURS OF OCCURRENCES OF CONCURRENT SURFACE WIND SPEED AND DIRECTION RECORDED WITHIN SPECIFIED RANGES**

FEBRUARY — 1968

Station	Calm (hours)	Variable (hours)	Unrecorded (hours)	Wind speed in knots	Number in hours of occurrences of wind blowing from the ranges of directions indication												All directions
					345 / 014	015 / 044	045 / 074	075 / 104	105 / 134	135 / 164	165 / 194	195 / 224	225 / 254	255 / 284	285 / 314	315 / 344	
Asyout . . . . . (A(	14	3	5	1—10	22	8	18	13	20	21	5	4	29	190	116	45	491
				11—27	1	1	1	0	10	21	8	6	3	24	60	47	182
				28—47	0	0	0	0	0	1	0	0	0	0	0	0	1
				≥ 48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**23**	**9**	**19**	**13**	**30**	**43**	**13**	**10**	**32**	**214**	**176**	**92**	**674**
Luxor . . . . . (A)	5	1	0	1—10	50	54	43	45	33	44	85	30	35	93	71	94	677
				11—27	0	0	0	0	0	0	4	0	0	0	5	4	13
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥ 48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**50**	**54**	**43**	**45**	**33**	**44**	**89**	**30**	**35**	**93**	**76**	**98**	**690**
Aswan . . . . . (A)	20	0	0	1—10	205	149	26	2	2	13	17	5	6	10	11	43	489
				11—27	80	53	1	0	0	1	5	0	0	0	5	42	187
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥ 48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**285**	**202**	**27**	**2**	**2**	**14**	**22**	**5**	**6**	**10**	**16**	**85**	**676**
Siwa	0	7	35	1—10	13	10	49	78	53	36	34	43	68	96	32	33	545
				11—27	2	1	0	8	15	1	18	9	13	24	10	6	107
				28—47	0	0	0	0	0	0	0	0	2	0	0	0	2
				≥ 48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**15**	**11**	**49**	**86**	**68**	**37**	**52**	**52**	**83**	**120**	**42**	**39**	**654**
Dakhla	0	0	39	1—10	61	20	41	41	34	26	59	45	25	45	85	126	608
				11—27	14	0	0	1	0	0	0	0	0	1	11	22	49
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥ 48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**75**	**20**	**41**	**42**	**34**	**26**	**59**	**45**	**25**	**46**	**96**	**148**	**657**
Kharga	25	11	5	1—10	142	63	19	10	11	13	22	9	11	23	67	167	557
				11—27	40	1	1	0	0	1	2	0	4	1	6	42	98
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥ 48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**182**	**64**	**20**	**10**	**11**	**14**	**24**	**9**	**15**	**24**	**73**	**209**	**655**
Hurghada	13	1	6	1—10	13	20	12	6	12	14	3	2	8	26	79	15	210
				11—27	86	9	0	3	6	32	1	0	0	45	152	106	450
				28—47	3	0	0	0	0	0	0	0	0	0	0	13	16
				≥ 48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**102**	**29**	**12**	**9**	**28**	**46**	**4**	**2**	**8**	**71**	**231**	**134**	**676**
Quseir	0	0	17	1—10	55	14	18	14	9	16	21	19	24	153	68	19	430
				11—27	61	0	0	0	3	3	0	0	1	12	96	73	249
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥ 48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**116**	**14**	**18**	**14**	**12**	**19**	**21**	**19**	**25**	**165**	**164**	**92**	**679**

UPPER AIR CLIMATOLOGICAL DATA

FEBRUARY—1968

Note: Climatological upper air data for Mersa Matruh. Helwan & Aswan upper air stations are missing since number of days of release of radiosonde sets at these stations (11 days or less) are less than the permissible number needed for calculating or processing monthly values.

REVIEW OF AGRO-METEOROLOGICAL STATIONS

EL KASR—FEBRUARY 1968

This month was slightly warmer and appreciably less rainy than normal. Two cold spells occurred during the periods : (1st-2nd), (6th-7th) and a cold wave during the period (20th - 25th). The cold wave yielded the lowest maximum air temperature for the month (14.6C), the highest daily rainfall amount (0.8mm) on the 20th and the lowest minimum air temperature for the month (3.8°C) on the 22nd. Warm weather was experienced during the periods : (12th - 13th), (16th - 18th) and (26th - 28th). The last warm period was the most pronounced, it yielded both the highest maximum air temperature for the month (28.5°C) and the highest minimum air teperature (12.0°C) on the 28th.

The extreme maximum soil temperatures were higher than the corresponding values of last February at all depths between 2 and 100 cms. and the differences ranged between 4.8°C at 2cms and 0.3°C at 100 cms. The extreme minimum soil temperatures were also higher than the corresponding values of last February at all depths between 2 and 100 cms. and the differences ranged between 1.9°C at 2cms. and 0.1°C at 100 cms.

The mean daily Pan evaporation was 1.65 mms, more than the corresponding value of February 1967. The mean daily actual duration of bright sunshine was 0.5 hour more than the corresponding value of February 1967.

TAHRIR—FEBRUARY 1968

Compared with last February, this month was slightly warmer and less rainy. The month was characterized by three cold spells during the period (1st - 2nd), on the 6th & 10th respectively and a cold wave during the period (20th - 24th). Warm weather was experienced on the 13th and during the periods (16th - 18th) & (26th - 29th).

The extreme maximum soil temperatures were higher than the corresponding value of last February at all depths between 2 and 100 cms and the differences ranged between 6.9°C at 2 cms & 0.1°C at 100 cms. The extreme minimum soil temperatures were lower than the corresponding values of last February at all depths between 2 and 100 cms. and the differences ranged between 1.1°C at 5 cms and 0.4°C at 20 cms.

The mean daily Pan evaporation was 0.85 mm. more than the corresponding value of February 1967.

BAHTIM—FEBRUARY 1968

Compared with last February, this month was slightly warmer, more humid and rainless. The month was characterized by three variant cold waves during the periods (lst - 2nd), (9th - 10th) and (20th - 25th), the third wave was the most pronounced. Warm weather was experienced on the 13th and during the periods : (15th - 19th) and (27th - 29th).

The minimum air temperature at 5 cms above dry soil fell below 0°C on 6 days. Its values on these days are given in the following table :

Minimum air temperature below 0°C at 5 cms above dry soil.

Min. (°C) :	-1.3	-0.4	-2.8	-2.5	-1.6	-0.5
Date :	2	11	22	23	24	26

The extreme maximum soil temperature at 2 cms depth was 3.0°C lower than the corresponding value of last February. At all other depths between 5 and 100 cms. the values were higher than last February and the differences ranged between 0.5°C at 10 cms depth and 2.0°C at 50cms. The extreme minimum soil temperatures were lower than the corresponding values of last February at 2 and 5 cms depths, and the differences were 1.2°C and 1.1°C respectively. At other depths between 10 and 100 cms, the values were higher than last February and the differences ranged between 0.1°C at 10 cms depth and 2.3°C at 50 cms.

The mean daily Piche evaporatin was 0.3 mm. less than the corresponding value of February 1967. The mean daily duration of bright sunshine was 0.9 hour more than the corresponding value of February 1967.

KHARGA -FEBRUARY 1968

This month was slightly warmer than normal and rainless. The month was characterized by three cold waves during the periods : (1st - 4th), (8th - 12th) and (21st - 22nd) and a cold spell on the 25th. A warm spell occurred on the 6th and two heat waves during the periods : (17th-18th) and (26th - 29th).

The extreme maximum soil temperatures were higher than the corresponding values of last February at all depths between 2 and 50 cms, but at 100 cms depth the values were the same. The differences ranged between 4.7°C at 2 cms and 0.7°C at 50 cms. The extreme minimum soil temperatures were lower than the corresponding values of last February at all depths between 2 and 100 cms except at 50 cms depth where the values were the same. The differences ranged between 1.2°C at 2.cms and 0.3°C at 10 cms.

The mean daily Pan evaporation was 0.64 mm less than the corresponding value of February 1967. The mean daily actual duration of bright sunshine was 0.5 hour more than the corresponding value of February 1967.

Table C 1.—AIR TEMPERATURE AT 1½ METRES ABOVE GROUND

FEBRUARY — 1968

STATION	Air Temperature (°C)					Mean Duration in hours of daily air temperature above the following values										
	Mean Max.	Mean Min.	Mean of the day	Night time mean	Day time mean	-5°C	0°C	5°C	10°C	15°C	20°C	25°C	30°C	35°C	40°C	45°
El Kasr	19.3	8.2	13.7	11.5	15.5	24.0	24.0	23.8	19.6	7.7	1.4	0.3	0.0	0.0	0.0	0.
Tahrir	21.1	7.4	13.6	10.6	16.5	24.0	24.0	23.9	17.2	8.9	2.4	0.4	0.0	0.0	0.0	0.
Bahtim	20.7	4.2	12.1	8.1	15.9	24.0	24.0	21.3	13.9	7.6	2.1	0.3	0.0	0.0	0.0	0.
Kharga	24.6	6.1	15 9	12.3	19.4	24.0	24.0	23.3	18.7	12.4	6.3	1.9	0.4	0.0	0.0	0.

Table C 2.—ABSOLUTE VALUES OF AIR TEMPERATURE AT 1½ METRES ABOVE GROUND, ABSOLUTE MINIMUM AIR TEMPERATURE AT 5cms ABOVE GROUND OVER DIFFERENT FIELDS

FEBRUARY — 1968

STATION	Max. Temp. at 1½ metres				Min. Temp. at 1½ metres				Min. Temp. at 5 cms. above			
	Highest		Lowest		Highest		Lowest		Dry Soil		Grass	
	Value	Date	Value	Date	Value	Date	Value	Date	Value	Date	Value	Date
El Kasr	28.5	28	14.6	20	12.0	28	3.8	25	0.4	22	—	—
Tahrir	30.3	28	16.2	1	15.7	29	4.2	26	2.3	23	—	—
Bahtim	27.7	28	15.8	1	10.6	13	0.5	6	-2.8	22	—	—
Kharga	34.6	29	17.4	2	11.5	19	0.2	3	-2.0	3	—	—

Table C 3.—(SOLAR + SKY) RADIATION, DURATION OF BRIGHT SUNSHINE, RELATIVE HUMIDITY & VAPOUR PRESSURE AT 1½ METRES ABOVE GROUND, EVAPORATION & RAINFALL

FEBRUARY — 1968

STATION	Solar+Sky Radiation gm. cal/cm²	Duration of Bright Sunshine (hours)			Relative Humidity %				Vapour Pressure (mms)						Evaporation(mms)		Rainfall (mms)		
		Total Actual	Total Possible monthly	%	Mean of day	1200 U.T.	Lowest	Date	Mean of day	1200 UT	Highest	Date	Lowest	Date	Piche	Pan class (A)	Total Amount monthly	Max. fall in one day	Da
El Kasr	291.4	214.5	320.7	67	66	54	13	28	7.4	8.1	11.1	26	3.8	28	7.0	6.57	1.2	0.8	20
Tahrir	361.2	238.2	321.6	74	73	54	23	28	8.2	9.0	11.1	18	5.4	29	5.6	4.84	0.4	0.2	9
Bahtim	—	243.5	322.4	75	72	49	23	28	7.4	8.1	12.3	27	4.7	23	4.7	4.09	0.0	0.0	—
Kharga	390.1	301.1	327.6	92	37	23	9	29	4.6	4.8	7.1	11,12 25*	1.5	26	11.0	8.00	0.0	0.0	—

* More ihar 3 days

TABLE C 4.—EXTREME SOIL TEMPERATURE AT DIFFERENT DEPTHS IN DIFFERENT FIELDS (cms)

FEBRUARY — 1968

STATION	Highest (H) Lowest (L)	Extreme soil tempetature (°C) in dry field at different depths (cms.)								Extreme soil temperature (°C) in grass field at different depths (cms,)							
		2	5	10	20	50	100	200	300	2	5	10	20	50	100	200	30
El kasr	H	31.1	26.0	23.0	19.0	17.5	17.3	19.4	—	—	—	—	—	—	—	—	—
	L	7.1	7.4	8.8	11.3	14.1	16.2	18.8	—	—	—	—	—	—	—	—	—
Tahrir	H	37.8	31.2	25.8	21.4	18.7	17.9	19.3	21.2	—	—	—	—	—	—	—	—
	L	5.9	6.2	7.6	10.9	13.4	16.0	18.8	20.5	—	—	—	—	—	—	—	—
Bahtim	H	35.9	25.0	21.7	18.6	18.6	19.4	22.2	23.2	—	—	—	—	—	—	—	—
	L	6.0	7.3	10.7	14.1	16.4	18.5	21.2	22.5	—	—	—	—	—	—	—	—
Kharga	H	38.7	33.0	26.7	23.0	22.3	22.5	25.6	27.5	—	—	—	—	—	—	—	—
	L	3.3	6.5	10.9	15.2	18.7	21.2	24.5	26.5	—	—	—	—	—	—	—	—

TABLE C 5. SURFACE WIND

FEBRUARY — 1968

STATION	Wind Speed m/sec at 1½ metres			Days with surface wind speed at 10 metres.							Max. Gust (knots) at 10 metres	
	Mean of the day	Night time mean	Day time mean	≥ 10 knots	≥ 15 knots	≥ 20 knots	≥ 25 knots	≥ 30 knots	≥ 35 knots	≥ 40 knots	Value (knots)	Date
kasr	3.9	3.4	4.5	—	—	—	—	—	—	—	—	—
hrir . . .	1.9	1.2	2.6	26	14	6	3	—	—	—	36	29
htim	2.2	1.4	3.0	25	12	7	3	0	0	0	35	18
harga . . .	2.6	1.8	3.4	23	15	5	0	0	0	0	35	29

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UNITED ARAB REPUBLIC

MONTHLY WEATHER REPORT

VOLUME 11 NUMBER 3

MARCH, 1968

U.D.C. 551. 506.1 (62)

METEOROLOGICAL DEPARTMENT
CAIRO

PUBLICATIONS OF THE METEOROLOGICAL DEPARTMENT OF THE UNITED ARAB REPUBLIC—CAIRO

In fulfilment of its duties the U.A.R. Meteorological Department issues several reports and publications on weather, climate and agrometeorology. The principal publications are described on this page.

Orders for publications should be adressed to :
"The Director General, Meteorological Department, Kubri-el-Qubbeh — CAIRO".

THE DAILY WEATHER REPORT

This report is issued daily by the Meteorological Department since the year 1901. It includes surface and upper air observations carried out by the relevant networks of the Republic at the principal hours of observations.

As from January 1968 this report was revised to include a condensed representative selection of surface and upper air observations besides the 1200 U.T. surface & 500 mb charts.

THE MONTHLY WEATHER REPORT

First issued in 1909, the Monthly Weather Report served to give a brief summary of the weather conditions that prevailed over Egypt during the month, with a table showing the mean values for few meteorological elements and their deviations from the normal values. From 1954 to 1957 this report was in a rapid state of development and extension resulting into a voluminous report on January 1958 giving surface, upper air, and agro-meteorological data for U.A.R.

As from January 1964, the Monthly Weather Report was pressed to give climatological data for a representative selection of synoptic stations.

THE AGRO-METEOROLOGICAL ABRIDGED MONTHLY REPORT

Gives a review of weather experienced in the agro-meteorological stations of the U.A.R. as well as monthly values of certain elements.

THE ANNUAL REPORT

This report gives annual values and statistics for the various meteorological elements, together with a summary of the weather conditions that prevailed during all months of the year.

CLIMATOLOGICAL NORMALS FOR EGYPT

A voluminous edition was issued in march 1968 which brings normals and mean values up till 1960.

METEOROLOGICAL RESEARCH BULLETIN

First issued in January 1969 on a bi-annual basis. It includes research works carried out by members of staff of "The Meteorological Institude for Research and Training" and the Operational Divisions of Meteorological Department.

TECHNICAL NOTES

As from October 1970, the Meteorological Department started to issue a new series of publications in the form of Technical Notes (non periodical) on subjects related to studies and applications of meteorology in different fields for the benefit of personnel working in these fields.

The first Technical Note I was issued in October 1970 on : Sandstorms & Duststorms in the U.A.R.

UNITED ARAB REPUBLIC

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METEOROLOGICAL DEPARTMENT
CAIRO

CONTENTS

Note : For explanatory notes on tables please refer to volume 11 (January 1968).

GENERAL SUMMARY OF WEATHER CONDITIONS

MARCH 1968

Changeable; Khamsiny during the first decade, rather cold otherwise. Few days of rain

GENERAL DESCRIPTION OF WEATHER

The prevailing weather during this month was generally cold in the northern parts, mild in the central and southern parts. Three variant short khamsin waves were experienced round the 3rd, 8th & 12th, the last of which was the most pronounced. Two pronounced cold waves prevailed most of the second half of the month.

Rain was light and confined to the northern parts during period (26th—30th). Local heavy rain was reported at Tanta on the 27th. Widespread rising sand and scattered sandstorms occurred during the second week and mainly round the 7th, 9th & 12th.

Early morning mist developed over local places in west of Delta & Cairo areas during many days of the month.

PRESSURE DISTRIBUTION

The most outstanding features of pressure distribution over the surface maps were :

— The Atlantic and Siberian anticylones, and their extensions through Europe & East Mediterranean.

— Deep low pressure systems passing through North Urasia.

— Secondary depressions through the Mediterranean and khamsin secondaries through North Africa.

Four khamsin depressions were distinguished during the first two weeks of this month.

The first khamsin depression developed on the 2nd south of Tunisia as a secondary to a depression over West Mediterranean. The two depressions moved east-wards and passed through East Mediterranean & U.A.R. on the 4th.

The second khamsin appeared over west of the Libyan desert on the 6th, moved eastwards and passed through U.A.R. on the 7th.

A depression appeared over West Mediterranean on the 7th together with a khamsin secondary over North Algiers. This system proceeded eastwards and passed through East Mediterranean & U.A.R. on the 9th.

The last khamsin depression developed on the 10th over North Algiers as a secondary for a depression over West Mediterranean. This system moved eastwards and traversed East Mediterranean & U.A.R. on the 12th.

As a result of the transit of the above mentioned khamsin secondaries, the barometric pressure in U.A.R. remained generally below normal from the beginning of the month till the 12th with pronounced minima round the 4th, 9th & 12th.

From the 13th till the end of the month, high pressure established over the Mediterranean and was disturbed by the passage of two depressions. The first depression was shallow and developed over the Gulf of Cyrenica on the 22nd, then it moved slowly eastwards and passed through East Mediterranean on the 25th. The second depression developed over Cyprus on the 27th, moved to Syria on the 28th where it deepened, and then continued its track towards Iraq while filling the next day.

During this period (13th—31st) the barometric pressure in U.A.R. remained above

its normal, through its experienced two falls by the transit of the above mentioned two depressions round the periods (22nd—25th) & (27th—29th).

The most outstanding features of pressure distribution over the 700 & 500 mb. uppr air charts were :

— Two deep upper low pressure systems, one over North Atlantic and the other over North Urasia.

— Secondary upper lows (or troughs) through middle latitudes between 30° & 45°N, traversing East Mediterranean and U.A.R. on the 5th, 9th, 14th, 20th, 25th & 30th.

— Upper high pressure belt south of latitude 30°N.

SURFACE WIND

The prevailing winds during the month were generally light to moderate NW ly, and backed to SW ly in advance of the travelling Mediterranean troughs and khamsin secondaries. Winds became fresh to strong in most parts of the Republic in advance and by the passage of the Mediterranean troughs and khamsin secondaries. In local places of the Red Sea, Western Desert and the Mediterranean districts fresh to strong winds were experienced during many days of the month.

Gales were reported over El Kasr, Abu Sueir, Zaher & Mostafa Helmi on the 12th ; Mersa Matruh on the 9th, 11th & 12th ; Ras El Hikma on the 7th ; Port Said on the 1st ; Fayed on the 12th & 29th ; Cairo on the 9th & 12th ; Hurghada on the 14th, 18th &31st and over Quseir on the 19th.

TEMPERATURE

Maximum air temperature showed rather large variability during this month. It was generally below normal, apart from the short periods of khamsin waves during which it was above normal. The deviations from normal were moderate in general, and appreciable during the peaks of the khamsin and cold waves. Maximum air temperature values ranged most days of the month between 18 °C & 22 °C in the northern parts, between 20 °C & 26 °C in the central parts and between 26 °C & 32 °C in the southern parts.

The absolute maximum air temperature was 40.9 °C reported at Aswan on the 13th.

Minimum air temperature was also below normal most of the month and above normal during the khamisn waves. Its deviations from normal were moderate in general. Minimum air temperature values ranged most days of the month between 7 °C & 14 °C in the northern & southern parts and between 4 °C & 10 °C in the central parts.

The absolute minimum air temperature was 2.0 °C reported at Minya on the 16th.

PRECIPITATION

Light to moderate rain fell over the Mediterranean district by the break down of the khamsin waves and during the period (26th—30th.) It extended southwards to Lower Egypt & Cairo during the last period. Rain was locally heavy and associated with thunderstorms round the 27th & 29th.

For the month as a whole, monthly rain was subnormal in the Mediterranean district and above normal in Lower Egypt & Cairo area districts.

The highest daily rainfall was 14.8 mms reported at Mansoura on the 29th.

The highest monthly rainfall was 28.3 mms reported at Mansoura.

Cairo, March 1971

M. F. TAHA
Under Secretary of State
Director General
Meteorological Department

Table A 1.—MONTHLY VALUES OF THE ATMOSPHERIC PRESSURE, AIR TEMPERATURE, RELATIVE HUMIDITY, BRIGHT SUNSHINE DURATION & PICHE EVAPORATION

MARCH — 1968

STATION	Atmospheric Pressure (mbs) M.S.L.		Air Temperature °C									Relative Humidity %		Bright Sunshine Duration (Hours)			Piche Evaporation mms.
			Maximum		Minimum			Dry Bulb		Wet Bulb							
	Mean	D.F. Normal or Average	(A) Mean	D.F. Normal or Average	(B) Mean	D.F. Normal or Average	$\frac{A+B}{2}$	Mean	D.F. Normal or Average	Mean	D.F. Normal or Average	Mean	D.F. Normal or Average	Total Actual	Total Possible	%	Mean
Sallum	1016.9	+1.4	19.9	—1.5	11.1	0.0	15.5	15.3	—1.1	11.4	—0.4	59	+ 4	—	—	—	5.0
Mersa Matruh. (A)	1016.8	+0.8	19.3	—1.2	9.5	—0.5	15.4	14.3	—0.7	11.1	—0.3	65	+ 2	—	—	—	8.0
Alexandria (A)	1016.4	+0.8	20.4	—0.8	10.4	—0.8	15.4	15.2	—0.6	11.5	—0.7	61	— 5	269.5	371.6	73	6.0
Port Said. (A)	1015.6	+0.2	19.3	—0.9	12.9	—0.7	16.1	15.7	—0.7	12.2	—1.1	64	— 4	250.3	371.6	67	6.6
El Arish.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ghazza.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tanta.	1015.8	+0.8	21.7	—2.0	8.4	+1.1	15.1	14.6	—1.1	10.9	—0.9	60	0	269.6	371.8	73	5.0
Cairo. (A)	1015.9	+0.6	22.5	—1.4	10.4	—1.0	16.5	16.1	—1.5	10.7	—1.5	47	— 3	—	—	—	14.8
Fayoum.	—	—	23.4	—1.9	8.4	—1.6	15.9	—	—	—	—	—	—	—	—	—	5.8
Minya. (A)	1015.5	0.0	24.6	—1.2	6.9	—1.0	15.8	15.4	—1.2	10.4	—0.7	49	+ 1	297.7	372.2	80	7.9
Assyout. (A)	1014.9	0.0	25.0	—1.6	9.3	—1.3	17.2	17.0	—1.6	10.8	—0.2	41	+ 9	—	—	—	13.7
Luxor. (A)	1013.9	+0.5	28.6	—0.7	10.5	—0.2	19.6	19.4	—0.7	11.7	—0.6	34	0	—	—	—	8.9
Aswan. (A)	1013.5	+0.5	29.6	—1.0	12.0	—1.3	20.8	21.0	—1.2	10.4	—0.7	16	+ 1	—	—	—	22.8
Siwa	1016.4	+0.8	24.0	+1.0	7.7	—0.7	15.9	16.2	—1.0	8.0	—2.5	38	+ 1	—	—	—	11.0
Bahariya.	1016.5	+1.1	24.2	—1.4	9.5	+0.6	16.9	16.8	—1.2	9.9	—0.7	34	— 2	—	—	—	8.9
Farafra.	1017.2	+0.6	25.2	—1.4	8.7	—0.2	16.9	16.9	—1.0	8.3	—1.4	32	+ 5	—	—	—	13.6
Dakhla.	1016.1	+1.5	27.0	—0.8	8.0	—1.3	17.5	17.4	—0.9	9.4	—0.2	30	+ 6	—	—	—	15.4
Kharga.	1015.1	+0.6	27.4	—1.4	10.6	—0.4	19.0	19.3	—1.0	10.1	—1.2	28	— 1	328.9	372.9	88	15.9
Tor.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hurghada.	1013.6	+0.2	23.5	+0.1	12.3	—0.1	17.9	18.4	—0.4	12.5	—0.7	46	— 4	—	—	—	15.8
Quseir	1014.2	+0.7	23.7	—1.1	15.5	—1.0	19.6	19.9	—0.9	13.8	—0.5	47	+ 1	—	—	—	15.4

Table A 2.—MAXIMUM AND MINIMUM AIR TEMPERATURES

MARCH — 1968

Station	Maximum Temperature °C									Grass Min. Temp.		Minimum Temperature °C							
	Highest	Date	Lowest	Date	Ns. of Days with Max-Temp.					Mean	Dev. From Normal	Highest	Date	Lowest	Date	No. of Days with Min. Temp.			
					>25	>30	>35	>40	>45							<10	<5	<0	<-5
Sallum	31.2	11	13.9	14	2	1	0	0	0	11.2	—	14.4	21	8.0	2	8	0	0	0
Mersa Matruh . (A)	28.2	11	14.4	14	3	0	0	0	0	—	—	14.2	9	5.0	24	19	0	0	0
Alexandria . . . (A)	27.8	12	13.8	14	3	0	0	0	0	—	—	16.2	12	5.4	25	11	0	0	0
Port Said . . . (A)	28.5	12	14.4	15	1	0	0	0	0	12.5	—	16.7	12	9.8	1	2	0	0	0
El Arish	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ghazza	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tanta	27.8	12	15.1	14	4	0	0	0	0	—	—	15.0	12	6.5	22	25	0	0	0
Cairo . . . . . (A)	32.7	12	15.4	14	7	1	0	0	0	—	—	18.4	12	6.6	15	13	0	0	0
Fayoum	33.6	12	17.6	14	10	2	0	0	0	6.8	—	14.8	13	5.0	3	24	0	0	0
Minya . . . . . (A)	36.9	12	17.7	14	12	2	1	0	0	4.0	—	13.2	13	2.0	16	29	5	0	0
Assyout . . . . (A)	40.0	12	20.5	5	13	3	2	0	0	9.7	—	16.8	12	4.8	16	20	1	0	0
Luxor . . . . . (A)	37.6	12	21.4	28	26	12	2	0	0	5.7	—	16.2	10	6.8	7	26	0	0	0
Aswan . . . . . (A)	40.9	13	23.4	2	27	14	4	1	0	—	—	17.8	14	8.5	6	5	0	0	0
Siwa	34.8	11	17.1	14	10	2	0	0	0	6.2	—	17.5	9	2.5	16	26	7	0	0
Bahariya	33.9	12	17.9	14	11	3	0	0	0	7.7	—	20.6	12	5.3	3	22	0	0	0
Farafra	35.5	12	18.6	15	14	4	1	0	0	8.4	—	16.8	12	3.3	6	24	4	0	0
Dakhla	39.8	12	20.4	15	16	6	2	0	0	—	—	16.6	13	2.6	6	22	6	0	0
Kharga	38.6	12	21.8	15	21	8	1	0	0	8.4	—	17.8	13	4.8	6	13	1	0	0
Tor	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hurghada	27.4	8	20.1	28	7	0	0	0	0	11.7	—	20.7	13	9.2	7	5	0	0	0
Quseir	28.4	10	21.0	28	5	0	0	0	0	14.3	—	19.0	10	12.8	6	0	0	0	0

Table A 3.—SKY COVER AND RAINFALL

MARCH — 1968

Station	Mean Sky Cover Oct					Rainfall mms										
	00 U.T.	06 U.T.	12 U.T.	18 U.T.	Daily Mean	Total Amount	Dev. From Normal	Max. Fall in one day		Number of Days With Amount of Rain						
								Amount	Date	< 0.1	≥ 0.1	≥ 1.0	≥ 5.0	≥ 10	≥ 25	≥ 50
Sallum	1.4	2.7	2.8	1.8	2.1	0.5	—11.1	0.5	6	0	1	0	0	0	0	0
Mersa Matruh . (A)	1.8	3.9	3.0	2.4	2.7	10.4	— 1.9	7.7	29	2	4	2	1	0	0	0
Alexandria . . . (A)	3.9	4.2	3.9	3.4	3.8	3.9	— 8.5	2.6	27	2	5	1	0	0	0	0
Port Said . . . (A)	—	2.2	2.5	—	—	11.1	+ 3.4	7.0	27	0	4	2	1	0	0	0
El Arish	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0
Ghazza	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0
Tanta	0.9	2.)	3.1	1.5	1.9	17.4	+13.2	12.6	27	0	5	3	1	1	0	0
Cairo . . . . . (A)	1.5	2.8	3.0	1.7	2.3	5.9	+ 4.1	4.8	29	1	3	1	0	0	0	0
Fayoum	—	1.8	2.6	1.0	—	tr.	— 1.4	tr.	27	1	0	0	0	0	0	0
Minya . . . . . (A)	0.5	0.8	1.4	0.9	1.0	0.0	— 0.3	0.0	—	0	0	0	0	0	0	0
Assyout. . . . . (A)	0.4	0.8	1.1	0.4	0.6	0.0	— tr.	0.0	—	0	0	0	0	0	0	0
Luxor . . . . . (A)	0.0	0.5	0.4	0.5	0.3	0.0	— tr.	0.0	—	0	0	0	0	0	0	0
Aswan . . . . . (A)	0.2	0.5	0.7	0.2	0.4	0.0	— tr.	0.0	—	0	0	0	0	0	0	0
Siwa	0.5	0.5	1.3	0.2	0.6	0.0	— 0.2	0.0	—	0	0	0	0	0	0	0
Bahariya	0.4	1.1	1.4	0.6	0.8	tr.	0.0	tr.	28 –29	2	0	0	0	0	0	0
Farafra	—	0.6	1.2	0.6	—	0.0	— 0.2	0.0	—	0	0	0	0	0	0	0
Dakhla	0.0	0.1	0.2	0.0	0.1	0.0	— tr.	0.0	—	0	0	0	0	0	0	0
Kharga	0.2	0.3	0.5	0.2	0.7	0.0	— tr.	0.0	—	0	0	0	0	0	0	0
Tor	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hurghada	0.4	0.4	1.1	0.8	0.7	0.0	— 0.4	0.0	—	0	0	0	0	0	0	0
Quseir	0.1	1.0	0.5	0.2	0.4	0.0	— 0.3	0.0	—	0	0	0	0	0	0	0

Table A 4.—DAYS OF OCCURRENCE OF MISCELLANEOUS WEATHER PHENOMENA

MARCH — 1968

Station	Precipitation				Frost	Thunderstorm	Mist Vis ≥ 1000 metres	Fog Vis < 1000 Metres	Haze Vis ≥ 1000 Metres	Thick Haze Vis < 1000 Metres	Dust or Sandrising Vis ≥ 1000 Metres	Dust or Sandstorm Vis < 1000 Metres	Gale	Clear Sky	Cloudy Sky
	Rain	Snow	Ice. Pellets	Hail											
Sallum.	1	0	0	0	0	0	1	0	0	0	1	2	0	17	0
Mersa Matruh. .(A)	4	0	0	0	0	1	3	0	1	0	7	3	3	12	1
Alexandria. . . .(A)	5	0	0	0	0	1	3	2	2	0	3	2	0	7	3
Port Said. . . .(A)	4	0	0	0	0	0	1	0	1	0	3	1	1	—	—
El Arish.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ghazza.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tanta.	5	0	0	0	0	0	2	0	0	0	1	0	0	19	0
Cairo. . . . . .(A)	3	0	0	0	0	0	4	2	5	0	9	3	2	12	0
Fayoum.	0	0	0	0		0	0	0	1	0	3	0	0	—	—
Minya. . . . . .(A)	0	0	0	0	0	0	7	0	3	0	0	0	0	30	0
Assyout. . . . .(A)	0	0	0	0	0	0	0	0	4	0	9	0	0	28	0
Luxor. . . . . .(A)	0	0	0	0	0	0	0	0	11	0	3	0	0	30	0
Aswan. . . . . .(A)	0	0	0	0	0	0	0	0	3	0	14	2	0	27	0
Siwa.	0	0	0	0	0	0	0	0	0	0	5	0	0	28	0
Bahariya.	0	0	0	0	0	0	0	0	3	0	4	2	0	25	0
Farafra.	0	0	0	0	0	0	0	0	5	0	8	2	0	—	—
Dakhla.	0	0	0	0	0	0	0	0	16	0	21	0	0	13	0
Kharga.	0	0	0	0	0	0	0	0	4	0	8	1	0	31	0
Tor.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hurghada.	0	0	0	0	0	0	0	0	0	0	11	1	3	27	0
Quseir	0	0	0	0	0	0	0	0	5	0	9	2	1	30	0

Table A 5.—NUMBER IN HOURS OF OCCURRENCES OF CONCURRENT SURFACE WIND SPEED AND DIRECTION RECORDED WITHIN SPECIFIED RANGES

MARCH — 1968

Station	Calm (hours)	Variable (hours)	Unrecorded (hours)	Wind speed in knots	Number in hours of occurrences of wind blowing from the ranges of directions indicated												All directions
					345 / 014	015 / 044	045 / 074	075 / 104	105 / 134	135 / 164	165 / 194	195 / 224	225 / 254	255 / 284	285 / 314	315 / 344	
lum	12	0	0	1—10	45	52	104	46	41	28	10	3	9	33	72	82	525
				11—27	12	7	3	5	0	0	1	19	7	26	54	70	204
				28—47	0	0	0	0	0	0	0	0	0	0	2	1	3
				≥ 48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**57**	**59**	**107**	**51**	**41**	**28**	**11**	**22**	**16**	**59**	**128**	**153**	**732**
rsa Matruh . . (A)	24	0	6	1—10	15	58	23	28	23	8	17	11	13	32	44	18	290
				11—27	51	99	20	30	1	20	4	16	15	28	40	60	384
				28—47	3	3	0	0	0	0	0	11	8	2	0	13	40
				≥ 48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**69**	**160**	**43**	**58**	**24**	**28**	**21**	**38**	**36**	**62**	**84**	**91**	**714**
xandria . . . (A)	3	0	0	1—10	82	78	29	7	32	15	21	29	19	10	62	145	529
				11—27	20	25	9	4	10	2	8	18	7	19	50	38	210
				28—47	0	0	0	0	0	0	2	0	0	0	0	0	2
				≥ 48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All Speeds	**102**	**103**	**38**	**11**	**42**	**17**	**31**	**47**	**26**	**29**	**112**	**183**	**741**
rt Said . . . (A)	3	0	0	1—10	134	12	12	13	14	28	37	44	34	50	20	107	505
				11—27	72	31	15	10	1	10	2	8	28	20	14	21	232
				28—47	0	0	0	0	0	4	0	0	0	0	0	0	4
				≥ 48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**206**	**43**	**27**	**23**	**15**	**42**	**39**	**52**	**62**	**70**	**34**	**128**	**741**
nta . . . . . (A)	31	0	0	1—10	50	26	15	25	21	25	40	79	73	87	68	89	598
				11—27	7	19	5	2	0	7	13	10	10	18	14	10	115
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥ 48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**57**	**45**	**20**	**27**	**21**	**32**	**53**	**89**	**83**	**105**	**82**	**99**	**713**
ro . . . . . (A)	32	0	2	1—10	56	52	64	27	18	19	24	40	37	53	45	39	474
				11—27	21	69	10	0	14	3	21	21	18	22	11	12	222
				28—47	0	0	0	0	0	0	9	5	0	0	0	0	14
				≥ 48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**77**	**121**	**74**	**27**	**32**	**22**	**54**	**66**	**55**	**75**	**56**	**51**	**710**
youm	0	0	14	1—10	160	171	2	7	10	41	46	41	48	44	30	43	643
				11—27	3	55	0	0	0	0	8	6	8	7	0	0	87
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥ 48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**163**	**226**	**2**	**7**	**10**	**41**	**54**	**47**	**56**	**51**	**30**	**43**	**730**
ya	0	11	23	1—10	217	19	2	1	19	71	22	5	11	18	24	105	514
				11—27	148	6	0	0	1	13	3	0	1	6	5	13	196
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥ 48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**365**	**25**	**2**	**1**	**20**	**84**	**25**	**5**	**12**	**24**	**29**	**118**	**710**

Table A 5. (*contd.*)—**NUMBER IN HOURS OF OCCURRENCES OF CONCURRENT SURFACE WIND SPEED AND DIRECTION RECORDED WITHIN SPECIFIED RANGES**

MARCH — 1968

Station	Calm (hours)	Variable (hours)	Unrecorded (hours)	Wind speed in knots	Mumber in hours of occurrences of wind blowing from the ranges of directions indication												All directions
					345 / 014	015 / 044	045 / 074	075 / 104	105 / 134	135 / 164	165 / 194	195 / 224	225 / 254	255 / 284	285 / 314	315 / 344	
Asyout . . . . . (A)	4	0	3	1—10	6	10	8	11	26	17	9	3	8	127	109	48	382
				11—27	24	1	0	1	13	7	16	9	3	42	114	123	353
				28—47	0	0	0	0	0	0	0	2	0	0	0	0	2
				≥ 48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**30**	**11**	**8**	**12**	**39**	**24**	**25**	**14**	**11**	**169**	**223**	**171**	**737**
Luxor	3	3	0	1—10	25	23	20	23	19	68	103	48	61	120	150	42	702
				11—27	0	2	0	0	0	0	1	1	5	0	25	2	36
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥ 48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**25**	**25**	**20**	**23**	**19**	**68**	**104**	**49**	**66**	**120**	**175**	**44**	**738**
Aswan . . . . . (A)	8	37	0	1—10	184	30	8	4	7	7	15	9	11	13	13	57	358
				11—27	239	5	0	0	0	0	0	1	0	1	14	81	341
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥ 48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**423**	**35**	**8**	**4**	**7**	**7**	**15**	**10**	**11**	**14**	**27**	**138**	**699**
Siwa	24	6	0	1—10	19	89	59	52	32	35	14	17	43	81	71	49	561
				11—27	4	12	1	3	0	10	9	6	8	26	42	30	151
				28—47	0	0	0	0	0	0	2	0	0	0	0	0	2
				≥ 48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**23**	**101**	**60**	**55**	**32**	**45**	**25**	**23**	**51**	**107**	**113**	**79**	**714**
Dakhla	12	6	0	1—10	54	30	8	30	33	18	40	22	33	60	87	142	557
				11—27	97	2	0	0	0	2	0	6	0	0	13	49	169
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥ 48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**151**	**32**	**8**	**30**	**33**	**20**	**40**	**28**	**33**	**60**	**100**	**191**	**726**
Kharga.	15	2	3	1—10	134	44	8	4	5	7	10	13	10	15	45	170	465
				11—27	101	0	0	0	0	2	9	0	0	1	10	136	259
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥ 48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**235**	**44**	**8**	**4**	**5**	**9**	**19**	**13**	**10**	**16**	**55**	**306**	**724**
Hurghada	13	1	2	1—10	4	22	12	7	11	13	6	5	9	35	47	15	186
				11—27	84	9	3	0	14	7	1	0	0	17	126	205	466
				28—47	0	0	0	0	0	0	0	0	0	0	10	66	76
				≥ 48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**88**	**31**	**15**	**7**	**25**	**20**	**7**	**5**	**9**	**52**	**183**	**286**	**728**
Quseir	35	0	0	1—10	53	43	15	7	22	14	18	5	21	57	91	58	404
				11—27	146	9	1	0	0	5	0	0	0	5	25	106	297
				28—47	6	0	0	0	0	0	0	0	0	0	0	2	8
				≥ 48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**205**	**52**	**16**	**7**	**22**	**19**	**18**	**5**	**21**	**62**	**116**	**166**	**709**

Table B 1.—UPPER AIR CLIMATOLOGICAL DATA

MARCH — 1968

Station	Presure Surface (Millibar)	Altitude of Pressure Surface (gpm)				Temperature (°C)				Dew point (°C)	
		N	Mean	Highest	Lowest	N	Mean	Highest	Lowest	N	Mean
Mersa Matruh (A) 0000 UT	Surface	26	*1018m.b.	*1022m.b.	*1010m.b.	26	10.9	14.2	07.8	26	7.4
	1000	26	173	210	112	26	11.6	16.6	08.4	26	7.4
	850	26	1517	1561	1461	26	3.6	11.1	—03 4	20	— 4.9
	700	26	3076	3130	3005	26	— 3.0	4.0	— 9 5	8	—10.4
	600	26	4280	4349	4190	26	—10.9	— 4.8	—16.7	5	—18.0
	500	25	5657	5740	5542	25	—20.0	—14 0	—26.1	8	—27.1
	400	24	7282	7386	7128	24	—31.0	—27.0	—39.9	—	—
	300	18	9264	9381	9070	18	—44.9	—36.4	—49.1	—	—
	250	17	10471	10596	10269	17	—50.4	—43.7	—63.2	—	—
	200	13	11923	12069	11725	13	—52.7	—49.0	—55.4	—	—
	150	11	13757	13884	13573	11	—60.7	—56.8	—69.3	—	—
	100	5	16281	16362	16208	5	—68.3	—67.0	—70.4	—	—
	70	2	18375	18400	18350	2	—65.7	—64.6	—66 8	—	—
	60	1	19300	—	—	1	—64.0	—	—	—	—
	50	1	20417	—	—	1	—63.8	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—
	30	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—
Helwan 0000 UT	Surface	27	*999m.b.	*1001m.b.	*992m.b.	27	12.7	20.0	8.1	27	4.5
	1000	27	• 133	173	70	15	11.3	12.9	8.0	15	5.5
	850	27	1487	1521	1435	27	7.5	19.1	0.6	20	— 5.5
	700	27	3063	3114	2988	27	0.2	9.1	— 8.8	12	—10.5
	600	27	4276	4359	4172	27	— 8.0	— 0.9	—17.2	12	—18.3
	500	27	5663	5783	5523	27	—16.8	—10.0	—27.3	8	—25.8
	400	26	7163	7459	7100	26	—28.2	—19.0	—39.1	6	—34.4
	300	25	9315	9547	9071	25	—41.6	—33.1	—46.9	—	—
	250	25	10637	10806	10260	25	—46.4	—42.2	—55.1	—	—
	200	25	12003	12281	11742	25	—52.2	—48.2	—54.9	—	—
	150	21	13834	14097	13600	21	—62.3	—54.2	—67.6	—	—
	100	15	16269	16404	16064	15	—69.9	—64.6	—74.8	—	—
	70	9	18398	18530	18160	9	—67.4	—64.4	—72.4	—	—
	60	8	19314	19458	19105	8	—63.6	—60.0	—66.9	—	—
	50	7	20432	20591	20235	7	—57.3	—54.5	—59.3	—	—
	40	4	21881	22021	21764	4	—54.2	—53.0	—57.3	—	—
	30	4	23759	23888	23648	4	—49.2	—45.1	—52.6	—	—
	20	1	26377	—	—	1	—48.6	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—
Aswan 0000 UT	Surface	24	*990m.b.	*995m.b.	*985m.b.	24	16.1	23.4	12.0	23	— 3·4
	1000	23	109	142	65	—	—	—	—	—	—
	850	23	1497	1549	1472	23	15.4	24.4	5.2	7	— 6.6
	700	23	3115	3167	3051	23	6.8	11.8	— 1.0	6	—10.6
	600	23	4363	4421	4234	23	— 0.6	3.8	— 5.6	3	—16.0
	500	22	5794	5860	5700	22	—10.0	— 4.5	—16.0	4	—20.4
	400	22	7474	7573	7371	22	—22.0	—16.3	—26.2	4	—27.4
	300	23	9543	9671	9396	23	—34.1	—29.3	—39.9	—	—
	250	23	10797	10957	10629	23	—42.2	—39.5	—47.8	—	—
	200	22	12282	12550	12083	22	—54.1	—49.5	—59.9	—	—
	150	21	14060	14232	13857	21	—66.8	—60.5	—70.4	—	—
	100	17	16466	16573	16347	17	—77.2	—72.8	—85.0	—	—
	70	2	18617	18661	18573	2	—77.8	—74.8	—80·7	—	—
	60	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—
	30	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—

N = The number of cases the element has been observed during the month.

* The atmospheric pressure corrected to the elevation of the radiosonde station.

Table B 1 (*contd.*)—UPPER AIR CLIMATOLOGICAL DATA

MARCH — 1968

Station	Pressure Surface (Millibar)	Altitude of Pressure Surface (gpm)				Temperature (°C)				Dew Point (°C)	
		N	Mean	Highest	Lowest	N	Mean	Highest	Lowest	N	Mean
Mersa Matruh (A) 1200 UT	Surface	28	1017m.b.*	1024m,b.*	1006m.b.*	28	17.7	26.5	12.5	28	8.4
	1000	28	171	231	70	28	16·0	25.4	11.1	28	7.6
	850	28	1526	1586	1412	28	6.2	15.9	— 1.1	21	— 4.2
	700	28	3130	3167	2949	27	— 1.6	5.9	— 8.9	9	—13.6
	600	28	4305	4407	4125	27	— 9.2	— 2.8	—16.3	6	—18.1
	500	27	5691	5819	5468	27	—18.6	— 9.8	—26.6	7	—28.0
	400	26	7316	7471	6943	26	—29.8	—22.5	—38.7	3	—37.8
	300	23	9364	9481	8910	23	—42.6	—35.1	—46.5	—	—
	250	23	10537	10701	10130	23	—47.5	—41.1	—55.1	—	—
	200	22	12000	12166	11610	22	—50.8	—46.3	—56.0	—	—
	150	18	13838	13997	13482	18	—58.2	—52.3	—65.0	—	—
	100	12	16344	16507	16016	12	—66.2	—54.5	—70.2	—	—
	70	4	18548	18600	18490	4	—63.5	—60.6	—66.0	—	—
	60	3	19469	19591	19315	3	—61.1	—58.1	—64.0	—	—
	50	3	20609	20753	20453	3	—58.6	—53.6	—64.0	—	—
	40	—	—	—	—	—	—	—	—	—	—
	30	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—
Helwan 1200 UT	Surface	29	998m.b.*	1005m,b.*	989m.b.*	29	21.4	32.3	11.9	29	1.4
	1000	29	126	183	44	16	19.4	24.6	11.8	16	0.7
	850	29	1496	1549	1443	29	8.8	21.9	2.1	25	— 3.7
	700	29	3081	3140	3001	29	1.2	9.9	— 7.6	16	—13.4
	600	29	4299	4380	4124	29	— 7.0	— 1.1	—15.7	12	—17.3
	500	29	5697	5811	5472	29	—15.9	— 8.9	—25.2	7	—18.7
	400	29	7343	7487	7061	29	—27.2	—18.6	—36.4	3	—32.1
	300	27	9357	9533	9024	27	—40.8	—31.2	—46.2	—	—
	250	27	10585	10785	10325	27	—45.4	—39.0	—52.7	—	—
	200	27	12055	12265	11706	27	—51.3	—46.7	—57.3	—	—
	150	23	13897	14065	13564	23	—59.6	—52.7	—67.2	—	—
	100	17	16364	16493	16136	17	—66.4	—57.6	—72.5	—	—
	70	8	18512	18630	18370	8	—63.5	—56.8	—69.0	—	—
	60	4	19468	19573	19363	4	—61.7	—59.9	—63.3	—	—
	50	4	20611	20711	20514	4	—56.4	—55.0	—57.3	—	—
	40	3	22080	22155	22036	3	—50.2	—48.7	—52.0	—	—
	30	3	23982	24060	23940	3	—45.5	—43.5	—48.9	—	—
	20	2	26674	26674	26673	2	—41.4	—40.8	—41.9	—	—
	10		—	—	—	—	—	—	—	—	—
Aswan (A) 1200 UT	Surface	22	990m.b.*	994m.b.*	985m.b.*	22	27.5	39.4	22.5	22	—0.1
	1000	22	107	183	67	—	—	—	—	—	—
	850	22	1501	1537	1482	22	11.7	26.0	8.3	5	— 7.0
	700	21	3116	3179	3035	21	7.3	13.4	2.3	3	—10.0
	600	21	4365	4440	4287	21	— 0.2	4.8	— 4.1	2	—14.0
	500	21	5797	5882	5718	21	—10.4	— 2.6	—15.2	4	—10.4
	400	21	7480	7588	7383	21	—21.8	—16.6	—25.8	2	—30.0
	300	21	9545	9694	9424	21	—34.8	—30.3	—40.8	—	—
	250	20	10785	10933	10545	20	—42.0	—39.3	—46.7	—	—
	200	20	12276	12410	12107	20	—53.4	—49.6	—58.5	—	—
	150	17	14086	14206	13951	17	—65.6	—62.2	—68.3	—	—
	100	14	16508	16595	16398	14	—75.5	—70.7	—82.7	—	—
	70	7	18646	18900	18500	7	—72.4	—68.6	—74.8	—	—
	60	4	19532	19585	19438	4	—68.2	—65.3	—72.1	—	—
	50	4	20643	20710	20580	4	—62.8	—56.2	—73.1	—	—
	40	2	21988	22005	21971	2	—62.4	—53.7	—71.1	—	—
	30	1	23683	—	—	1	—68.3	—	—	—	—
	20	1	26135	—	—	1	—64.7	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—

N = The number of cases the element has been observed during the month.

* The atmospheric pressure corrected to the elevation of the radiosonde station.

Table B 2.—MEAN AND EXTREME VALUES OF THE FREEZING LEVEL AND THE TROPOPAUSE; THE HIGHEST WIND SPEED IN THE UPPER AIR

MARCH — 1968

	Station	Freezing Level									First Tropopause									Highest wind speed			
		Mean			Highest			Lowest			Mean			Highest			Lowest						
		Altitude (gpm)	Pressure (mb.)	Dew point (°C)	Altitude (gpm)	Pressure (mb.)	Dew point (°C)	Altitude (gpm)	Pressure (mb.)	Dew point (°C)	Altitude (gpm)	Pressure (mb.)	Temperature (°C)	Altitude (gpm)	Pressure (mb.)	Temperature (°C)	Altitude (gpm)	Pressure (mb.)	Temperature (°C)	Altitude (gpm)	Pressure (mb.)	Direction (000—360)°	Speed in Knots
0000 U.T.		(N)	(N)	(N)							(N)	(N)	(N)										
	Mersa Matruh (A)	2295 (25)	775 (25)	—5.4 (10)	3650	652	—	1130	890	—3.4	10335 (13)	261 (13)	—52.6 (13)	15420	116	—69.2	8600	330	—47.9	10800	241	290	186
	Helwan	2879 (27)	721 (27)	—9.0 (15)	4260	608	-10.5	1200	881	—4.4	11680 (15)	221 (15)	—51.5 (15)	15600	112	—61.2	9140	308	—43.8	11130	235	290	148
	Aswan . . . (A)	4212 (23)	587 (23)	-16.3 (6)	5300	537	—	2870	718	—	15499 (8)	118 (8)	—74.2 (8)	17190	90	—75.9	14410	142	—70.4	6690	—	280	94
1200 U.T.		(N)	(N)	(N)							(N)	(N)	(N)										
	Mersa Matruh (A)	2614 (28)	737 (28)	—8.3 (17)	4100	625	-15.0	1370	867	—4.4	11174 (20)	232 (20)	—53.8 (20)	14360	140	—63.4	8270	344	—45.8	11910	207	280	197
	Helwan	3146 (29)	692 (29)	—9.9 (13)	4220	610	—	1840	814	—3.0	11538 (17)	224 (17)	—54.5 (17)	17220	88	—69.0	8690	320	—49.0	11820	209	310	148
	Aswan . . . (A)	4318 (21)	604 (21)	-15.2 (2)	5530	520	—	3390	678	—	15676 (9)	116 (9)	—71.6 (9)	16552	100	—80.1	14100	147	—69.2	13810	156	260	150

N = The number of cases the element has been observed during the month.

Table B 3.—NUMBER OF OCCURRENCES OF WIND DIRECTION WITHIN SPECIFIED RANGES AND THE MEAN SCALAR WIND SPEED AT THE STANDARD AND SELECTED PRESSURE SURFACES

MERSA MATRUH (9) — MARCH 1968

Time	Pressure Surface Millibar	Wind between specified ranges of direction (000—360)°																								Number of calm winds	Total number of observations (TN)	Mean scalar wind speed (knots)
		345 / 014		015 / 044		045 / 074		075 / 104		105 / 134		135 / 164		165 / 194		195 / 224		225 / 254		255 / 284		285 / 314		315 / 344				
		N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m			
0000 U.T.	Surface	3	13	1	10	1	7	0	—	1	18	2	8	2	8	1	11	4	10	3	9	4	13	1	7	3	26	9
	1000	2	10	3	9	1	9	1	5	2	13	1	13	1	13	1	7	1	8	3	17	5	19	2	10	0	23	13
	850	3	16	2	12	0	—	1	8	0	—	0	—	0	—	1	26	0	—	3	16	4	22	9	18	0	23	18
	700	1	13	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	20	7	34	7	34	5	20	0	22	28
	600	3	29	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	49	8	43	5	51	4	23	0	21	39
	500	1	33	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	68	6	59	6	66	4	20	0	18	52
	400	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	5	86	8	68	4	23	0	17	63
	300	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	5	87	5	64	2	26	0	12	67
	250	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	3	76	4	90	0	—	0	7	84
	200	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	72	3	78	0	—	0	5	76
	150	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	57	0	—	0	—	—	1	57
	100	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	70	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	60	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1200 U.T.	Surface	2	12	11	11	0	—	0	—	0	—	1	11	0	—	0	—	0	—	2	18	4	25	8	14	0	28	14
	1000	0	—	3	10	5	12	0	—	0	—	0	—	0	—	0	—	1	18	1	18	6	25	10	16	0	26	17
	850	5	17	3	11	0	—	0	—	0	—	0	—	0	—	1	3	2	20	4	30	6	16	5	14	0	26	17
	700	1	8	0	—	0	—	1	2	0	—	0	—	0	—	0	—	1	47	8	36	5	36	8	22	0	24	29
	600	1	19	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	7	42	10	37	3	31	0	21	37
	500	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	5	56	14	44	2	45	0	21	47
	400	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	5	89	12	66	3	32	0	20	67
	300	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	7	108	10	83	1	24	0	18	89
	230	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	134	4	70	10	91	0	—	0	15	88
	200	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	141	7	108	4	116	0	—	0	12	14
	150	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	7	90	2	87	0	—	0	9	189
	100	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	3	62	0	—	0	—	0	3	62
	70	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	37	1	85	0	—	0	2	61
	60	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	27	0	—	1	104	0	2	66
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

N = The number of cases the wind has been observed from the range of direction during the month.

TN = The total number of cases the wind has been observed for all directions during the month.

Table B 3 (*contd.*).—NUMBER OF OCCURRENCES OF WIND DIRECTION WITHIN SPECIFIED RANGES AND THE MEAN SCALAR WIND SPEED AT THE STANDARD AND SELECTED PRESSURE SURFACES

HELWAN—MARCH 1968

Time	Pressure Surface Millibar	Wind between specified ranges of direction (000—360)°																								Number of calm winds	Total number of observations (TN)	Mean scalar wind speed (knots)
		345 / 014		015 / 044		045 / 074		075 / 104		105 / 134		135 / 164		165 / 194		195 / 224		225 / 254		255 / 284		285 / 314		315 / 344				
		N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m			
0000 U.T.	Surface	5	9	8	12	0	—	2	8	2	12	0	—	0	—	0	—	1	10	2	11	3	6	3	12	1	27	10
	1000	2	11	6	14	4	20	1	6	0	—	0	—	0	—	0	—	0	—	1	7	1	4	0	—	0	15	14
	850	4	12	5	15	1	47	2	18	0	—	0	—	0	—	0	—	3	17	4	32	6	28	1	28	0	26	22
	700	3	18	1	28	0	—	0	—	0	—	0	—	0	—	0	—	0	—	6	35	9	35	4	20	0	23	30
	600	3	30	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	4	52	10	52	4	32	0	21	45
	500	1	82	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	63	1	67	9	55	4	40	0	16	54
	400	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	76	2	55	7	61	1	23	0	11	57
	300	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	4	104	3	47	0	—	0	7	79
	250	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	83	3	95	0	—	0	4	92
	200	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	3	87	1	122	0	—	0	4	96
	150	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	0	1	102	0	—	0	—	0	1	102
	100	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	70	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	60	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1200 U.T.	Surface	4	13	5	14	0	—	0	—	0	—	0	—	0	—	6	9	4	9	3	11	5	9	2	11	0	29	11
	1000	4	14	6	18	1	15	0	—	0	—	0	—	0	—	0	—	2	12	0	—	1	10	2	12	0	16	15
	850	3	15	3	15	6	12	0	—	0	—	0	—	1	21	0	—	0	—	6	18	7	20	3	14	0	29	16
	700	3	15	1	14	0	—	0	—	0	—	0	—	0	—	0	—	0	—	10	31	6	33	6	29	0	26	28
	600	1	6	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	41	8	42	10	52	6	31	0	26	42
	500	1	37	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	4	79	12	54	4	37	0	21	55
	400	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	4	56	10	66	2	66	0	16	64
	300	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	70	4	59	1	70	0	6	62
	250	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	121	2	67	0	—	0	3	85
	200	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	100	0	—	0	1	100
	150	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	54	0	—	0	—	0	1	54
	100	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	70	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	60	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

N = The number of cases the winds has been observed from the range of direction during the month.

TN = The total number of cases the wind has been observed for all directions during the month.

Table B 3 (*contd.*).—NUMBER OF OCCURRENCES OF WIND DIRECTION WITHIN SPECIFIED RANGES AND THE MEAN SCALAR WIND SPEED AT THE STANDARD AND SELECTED PRESSURE SURFACES

ASWAN (A)— MARCH 1968

Time	Pressure Surface Millibar	Wind between specified ranges of direction (000—300)°																								Number of calm winds	Total number of observations (TN)	Mean scalar wind speed (knots)
		345 / 014		015 / 044		045 / 074		075 / 104		105 / 134		135 / 164		165 / 194		195 / 224		225 / 254		255 / 284		285 / 314		315 / 344				
		N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m			
0000 U.T.	Surface	14	11	1	9	0	—	0	—	0	—	1	5	0	—	0	—	2	4	0	—	1	13	4	9	0	23	10
	1000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	850	2	14	2	4	0	—	1	12	0	—	0	—	1	4	0	—	1	6	4	15	3	18	4	10	0	18	12
	700	1	15	1	30	1	5	0	—	1	8	0	—	1	16	1	20	1	18	4	21	6	32	2	21	0	19	23
	600	2	29	1	26	0	—	0	—	0	—	0	—	0	—	1	4	1	53	5	39	3	37	1	26	0	14	34
	500	1	30	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	66	4	46	2	24	1	52	0	9	42
	400	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	80	1	71	1	55	1	43	0	4	62
	300	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	250	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	200	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	150	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	100	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	70	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	60	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1200 U.T.	Surface of station	12	13	1	12	0	—	0	—	0	—	1	8	1	4	1	8	0	—	0	—	0	—	6	11	0	22	12
	1000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	850	2	8	1	6	0	—	0	—	0	—	0	—	0	—	1	12	2	10	2	16	7	18	7	13	0	22	14
	700	0	—	1	12	0	—	0	—	0	—	0	—	1	8	0	—	7	24	4	35	3	26	5	22	0	21	23
	600	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	4	36	11	40	3	26	3	30	0	21	36
	500	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	6	50	12	39	0	—	2	40	0	20	43
	400	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	7	54	7	74	5	52	0	—	0	19	61
	300	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	6	81	9	90	2	98	0	—	0	17	88
	250	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	5	68	9	97	2	98	0	—	0	16	87
	200	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	6	94	6	79	2	100	0	—	0	14	88
	150	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	3	83	8	88	1	61	0	—	0	12	84
	100	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	4	40	5	43	0	—	0	—	0	9	42
	70	0	—	1	17	1	4	0	—	0	—	0	—	0	—	0	—	0	—	1	17	0	—	0	—	0	3	13
	60	0	—	0	—	0	—	1	25	0	—	0	—	0	—	0	—	0	—	1	10	0	—	0	—	0	2	18
	50	0	—	0	—	0	—	0	—	—	—	0	—	0	—	0	—	0	—	1	10	0	—	0	—	0	1	10
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

N = The number of cases the wind has been observed from the range of direction during the month.

TN = The total number of cases the wind has been observed for all direction during the month.

REVIEW OF AGRO-METEOROLOGICAL STATIONS

EL KASR—MARCH 1968

This month was slightly cooler and less rainy than normal. The daily maximum ir temperatures were below normal most days of the month. Two warm spells were xperienced on the 3rd and 7th, and a weak heat wave on the (11th & 12th). The second varm spell and the heat wave were associated with sandstorms. Two cold waves occurred during the periods (14th-18th) and (27th-31st). The first cold wave yielded the owest maximum air temperature for the month (14.4°C) on the 14th. The second cold vave was associated with the highest daily rainfall amount (6.2 mms) on he 29th.

The extreme maximum soil temperature at 2 cms. depth was the same as last March, nd at 5 cms. depth it was 0.6°C lower. At deeper depths between 10 & 100 cms the xtreme soil maxima were higher than the corr esponding values of last March; the differences anged between 0.3°C at 10 cms. depth and 1.3°C at 50 cms. depth. The extreme inimum soil temperatures were higher than the corresponding values of last March at all epths between 2 and 100 cms. except at 5 cms depth where the value was 0.6°C lower ; the ifferences ranged between 1.0°C at 2 cms depth & 0.4°C at other depths.

The mean daily Pan evaporation was 0.35 mms. more than the corresponding value of Iarch 1967. The total actual duration of bright sunshine was 30.0 hours more than the orresponding value of March 1967.

TAHRIR—MARCH 1968

This month was slightly warmer and more rainy than last March. A warm spell was xperienced on the 3rd and a heat wave during the period (7th-13th). The heat wave vas associated with the highest maximum air temperature for the month (32.6°C) and sanlstrom on the 12th. Two cold waves occurred during the periods (14th-18th) & (26th-1st) and a cold spell on the 22nd. The first cold wave yielded the lowest maximum air emperature for the month (15.6°C) on the 14th. The second cold wave was associated ith all the rainfall for this month (4.8 mms).

The extreme maximum soil temperatures were higher than the corresponding values f last March at all depths between 2 & 100 cms. ; the differences ranged between 1.6 °C t both 5 and 50 cms. depths and 0.4 °C at both 20 & 100 cms depths. The extreme inimum soil temperatures were also higher than the corresponding values of last March t all depths between 2 & 100 cms ; the differences ranged between 0.1 °C at 2 cms. depth nd 1.0 °C at both 20 & 50 cms. depths.

The mean daily Pan evaporation was 0.07 mms. more than the corresponding value f March 1967. The total actual duration of bright sunshine was 2.0 hours less than the orresponding value of March 1967.

BAHTIM—MARCH 1968

Compared with last March, this month was slightly warmer, more humid and more rainy. he daily maximum and minimum air temperatures were below normal most days of the ionth. The month was characterized by two weak khamsin heat waves during the periods th — 9th) & (11th — 13th) and two prolonged cold waves during the periods (14th — 2nd) and (26th — 31st). The second heat wave was more pronounced than the first, and s break down on the 12th was associated with sandstroms. The fisrt cold wave yielded the

lowest maximum air temperature for the month (15.1 °C) on the 14th and the lowest minimum air temperature (2.1 °C) on the 16th. The second cold wave was associated with all the rainfall for this month (5.0 mms).

The minimum air temperature at 5 cms. above dry soil fell below 0°C on three days Its values on these days are given in the following table :

Minimum air temp. below 0°C at 5 cms. above dry soil.

Min. :	—1.1°C	—0.3	—0.3
Date :	3	16	17

The extreme maximum soil temperatures were lower than the corresponding values of last March at 2 & 5 cms depths and the differences were 3.8°C & 0.1°C respectively. At other depths between 10 &100 cms. the values were higher than last March, and the differences ranged between 0.5°C at 10 cms. & 1.7°C at 50 cms. The extreme minimum soil temperatures were higher than the corresponding values of last March at all depths between 2 & 109 cms., and the differences ranged between 0.6 at 2cms. & 2.2°C at 50cms.

The mean daily Pan evaporation was 0.78 mms. less than the corresponding value of March 1967. The total actual duration of bright sunshine was 14.8 hours less than the corresponding value of March 1967.

KHARGA—MARCH 1968

This month was nearly normal with respect to the mean daily air temperature. The daily maximum air temperatures were below normal most days of the month. Two heat waves were experienced, the first on the 4th, and the second during the period (7th-13th) yielding the highest maximum air temperature for the month (38.6°C) on the 12th. Two cold spells occurred on the 2nd and (5th & 6th), and two cold waves during the periods (14th-22nd) & (27th-31st). The first cold wave yielded the lowest maximum air temperature for the month (21.8 °C) on the 15th.

The extreme maximum soil temperatures were higher than the corresponding values of last March at all depths between 2 & 100 cms. ; the differences ranged between 0.3 °C at 5 cms. depth and 1.9 °C at 10 cms. depth. The extreme minimum soil temperatures were higher than the corresponding values of last March at all depths, except at 100 cms. depth where the values were the same ; the differences ranged between 2.0 °C at 5 cms. depth and 0.8 °C at 50 cms. depth.

The mean daily Pan evaporation was 1.44 mms. more than the corresponding value of March 1967. The total actual duration of bright sunshine was 9.7 hours less than the corresponding value of March 1967.

Note: During this month recording charts of the mercury in steel hygrograph were not available at El-Kasr & Bahtim centres. For these centres mean of the day of air temperature, relative humidity and vapour pressure were calculated using the following equations :

Mean of the day of air temperature.

= (0600 + 1200 + 1800) U.T. dry bulb readings + minimum air temperature / 4

mean of the day of relative humidity.

= (0600 + 1800) U. T. observations/2.

mean of the day of vapour pressure.

= (0600 + 1200 + 1800) U. T. observations/3.

Table C 1.- AIR TEMPERATURE AT 1½ METRES ABOVE GROUND

MABCH — 1968

STATION	Air Temperature (°C)					Mean Duration in hours of daily air temperature above the following values										
	Mean Max.	Mean Min.	Mean of the day	Night time mean	Day time mean	-5°C	0°C	5°C	10°C	15°C	20°C	25°C	30°C	35°C	40°C	45°C
Kasr	19.5	9.7	14.1	—	16.8	—	—	—	—	—	—	—	—	—	—	—
hrir	22.6	8.5	14.4	11.7	18.2	24.0	24.0	24.0	19.3	10.5	4.2	0.6	0.0	0.0	0.0	0.0
htim	21.8	6.7	13.5	—	17.8	24.0	24.0	—	—	—	—	—	—	0.0	0.0	0.0
arga	27.4	10.6	19.3	16.2	22.5	24.0	24.0	24.0	23.0	17.2	10.4	3.8	0.7	0.3	0.0	0.0

Table C 2.—ABSOLUTE VALUES OF AIR TEMPERATURE AT 1½ METRES ABOVE GROUND, BSOLUTE MINIMUM AIR TEMPERATURE AT 5cms ABOVE GROUND OVER DIFFERENT FIELDS

MARCE — 1968

STATION	Max. Temp. at 1½ metres				Min. Temp. at 1½ metres				Min. Temp. at 5 cms. above			
	Highest		Lowest		Highest		Lowest		Dry Soil		Grass	
	Value	Date *	Value	Date	Value	Date	Value	Date	Value	Date	Value	Date
Kasr	28.9	11	14.4	14	14.0	9.10	4.5	22	1.6	17	—	—
hrir	32.6	12	15.6	14	15.6	12	5.0	17	2.4	17	—	—
htim	30.8	12	15.1	14	18.3	12	2.1	16	-1.1	3	—	—
arga	38.6	12	21.8	15	17.8	13	4.8	6	2.6	6	—	—

bleC 3.—(SOLAR + SKY) RADIATION, DURATION OF BRIGHT SUNSHINE, RELATIVE HUMIDITY & VAPOUR PRESSURE AT 1½ METRES ABOVE GROUND, EVAPORATION & RAINFALL

MARCE — 1968

STATION	Solar+Sky Radiation gm. cal/cm²	Duration of Bright Sunshine (hours)			Relative Humidity %				Vapour Pressure (mms)						Evaporation(mms)		Rainfall (mms)		
		Total Actual	Total Possible monthly	%	Mean of day	1200 U.T.	Lowest	Date	Mean of day	1200 UT	Highest	Date	Lowest	Date	Piche	Pan class (A)	Total Amount monthly	Max. fall in one day	Date
l Kasr	404.3	269.6	371.6	73	73	61	18	12	9.1	9.4	13.1	8	4.6	7	7.4	7.41	7.0	6.2	29
ahrir	447.5	271.8	372.0	72	73	52	27	12	8.9	9.5	12.0	10	4.8	1	7.0	6.45	4.8	2.6	29
ahtim	475.7	264.6	372.0	71	73	46	21	7	8.2	8.3	—	—	—	—	6.3	5.74	5.0	3.0	29
harga	481.0	328.9	372.9	88	31	19	8	12	4.8	4.7	8.3	14	2.5	25	16.1	12.62	0.0	0.0	—

* More ihar 3 days

TABLE C 4.—EXTREME SOIL TEMPERATURE AT DIFFERENT DEPTHS (cms) IN DIFFERENT FIELDS

MARCH — 1968

STATION	Highest (H) Lowest (L)	Extreme soil tempetature (°C) in dry field at different depths (cms.)								Extreme soil temperature (°C) in grass field at different depths (cms,)							
		2	5	10	20	50	100	200	300	2	5	10	20	50	100	200	30
El kasr	H	30.3	27.2	24.0	20.2	19.0	18.8	19.4	—	—	—	—	—	—	—	—	—
	L	10.4	9.4	11.2	14.2	16.4	17.6	18.8	—	—	—	—	—	—	—	—	—
Tahrir	H	39.3	33.8	28.2	23.6	20.8	19.5	20.3	20.9	—	—	—	—	—	—	—	—
	L	11.1	11.0	12.0	14.8	17.3	18.2	19.2	20.5	—	—	—	—	—	—	—	—
Bahtim	H	38.4	28.8	24.8	21.1	20.3	20.2	21.3	22.3	—	—	—	—	—	—	—	—
	L	10.1	11.2	14.6	17.2	18.3	18.7	21.2	22.0	—	—	—	—	—	—	—	—
Kharga	H	41.6	35.3	29.9	26.0	24.5	24.0	24.9	26.5	—	—	—	—	—	—	—	—
	L	8.2	12.0	16.0	20.1	22.2	22.5	24.6	26.0	—	—	—	—	—	—	—	—

TABLE C 5.—SURFACE WIND

MARCH — 1968

STATION	Wind Speed m/sec at 1½ metres			Days with surface wind speed at 10 metres.							Max. Gust (knot at 10 metres	
	Mean of the day	Night time mean	Day time mean	≥ 10 knots	≥ 15 knots	≥ 20 knots	≥ 25 knots	≥ 30 knots	≥ 35 knots	≥ 40 knots	Value (knots)	Date
El kasr	4.5	3.7	5.3	—	—	—	—	—	—	—	—	—
Tahrir . . .	2.5	1.5	3.4	31	25	10	5	2	1	1	48	12
Bahtim	2.6	1.8	3.5	31	23	8	2	1	0	0	44	12
Kharga . . .	3.7	2.7	4.8	27	21	9	4	1	0	0	37	14

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UNITED ARAB REPUBLIC

MONTHLY WEATHER REPORT

VOLUME 11 NUMBER 4

APRIL, 1968

U.D.C. 551. 506.1 (62)

METEOROLOGICAL DEPARTMENT
CAIRO

PUBLICATIONS OF THE METEOROLOGICAL DEPARTMENT OF THE UNITED ARAB REPUBLIC—CAIRO

In fulfilment of its duties, the U.A.R. Meteorological Department issues several reports and publications on weather, climate and agrometeorology. The principal publications are described on this page.

Orders for publications should be adressed to :
"The Director General, Meteorological Department, Kubri-el-Qubbeh — CAIRO".

THE DAILY WEATHER REPORT

This report is issued daily by the Meteorological Department since the year 1901. It includes surface and upper air observations carried out by the relevant networks of the Republic at the principal hours of observations.

As from January 1968 this report was revised to include a condensed representative selection of surface and upper air observations besides the 1200 U.T. surface & 500 mb charts.

THE MONTHLY WEATHER REPORT

First issued in 1909, the Monthly Weather Report served to give a brief summary of the weather conditions that prevailed over Egypt during the month, with a table showing the mean values for few meteorological elements and their deviations from the normal values. From 1954 to 1957 this report was in a rapid state of development and extension resulting into a voluminous report on January 1958 giving surface, upper air, and agro-meteorological data for U.A.R.

As from January 1964, the Monthly Weather Report was pressed to give climatological data for a representative selection of synoptic stations.

THE AGRO-METEOROLOGICAL ABRIDGED MONTHLY REPORT

Gives a review of weather experienced in the agro-meteorological stations of the U.A.R. as well as monthly values of certain elements.

THE ANNUAL REPORT

This report gives annual values and statistics for the various meteorological elements, together with a summary of the weather conditions that prevailed during all months of the year.

CLIMATOLOGICAL NORMALS FOR EGYPT

A voluminous edition was issued in march 1968 which brings normals and mean values up till 1960.

METEOROLOGICAL RESEARCH BULLETIN

First issued in January 1969 on a bi-annual basis. It includes research works carried out by members of staff of "The Meteorological Institute for Research and Training" and the Operational Divisions of Meteorological Department.

TECHNICAL NOTES

As from October 1970, the Meteorological Department started to issue a new series of publications in the form of Technical Notes (non periodical) on subjects related to studies and applications of meteorology in different fields for the benefit of personnel working in these fields.

The first Technical Note I was issued in October 1970 on : Sandstorms & Duststorms in the U.A.R.

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METEOROLOGICAL DEPARTMENT
CAIRO

CONTENTS

Note : For explanatory notes on tables please refer to volume 11 number 1 (January 1968).

GENERAL SUMMARY OF WEATHER CONDITIONS

APRIL 1968

Rather cold weather intervened with two khamsin disturbances during the 1st half and characterized with light rain over the northern parts the 2nd half. Local heavy rain with records at Balteam and Abu Sueir.

GENERAL DESCRIPTION OF WEATHER

The prevailing weather was hot most of the first half of this month during which two khamsin heat waves prevailed. The first heat wave was of moderate intensity and reached its peak round the 4th. The second heat wave was excessive and prevailed from the 9th till the 15th. During the second half of the month, weather was in general rather cold in the northern parts and mild in the central & southern parts.

Light rain fell over scattered parts on few days during the second half of the month. Rain was heavy locally and its daily amounts reached records at Balteam on the 22nd (17.4 mms) and Abu Sueir on the 23rd (30.0 mms).

Weather was sandy for many days during the month at the southern inland districts. Early morning fog & mist patches developed in few occasions over scattered localities of the Delta, Canal & Cairo areas.

PRESSURE DISTRIBUTION

The most outstanding features of pressure distribution over the surface maps during this month were :

— The Siberian Anticyclone.

— Deep low pressure systems passing through North Urasia, and moving anticyclones in their rears extending sometimes southwards through the Mediteranean.

— Weak high pressure over East & Central Mediterranean and NE Africa.

— Travelling khamsin secondaries through coast of North Africa.

During this month, only three shallow khamsin depressions were distinguished. The first khamsin depression developed over North Algiers on the 1st, moved eastwards and passed through north of U.A.R. on the 5th. The second khamsin depression was formed over North Algiers on the 6th, then moved slowly eastwards and reached the Gulf of Serte on the 9th where it filled up. The third and last khamsin depression during this month developed over North Algiers also on the 10th, then moved slowly eastwards and traversed north of U.A.R. on the 15th.

The barometric pressure in U.A.R. experienced four falls round the periods (2nd-5th), (10-16th), (21st-23rd) & (28th-29th) respectively. The first and second falls were caused by the transit of the above mentioned two khamsin secondaries through north of U.A.R. The pressure fall during the third period was caused by the deepening of a trough extending from Iraq to Cyprus, while high pressure extended from East & Central Europe southwards through the Mediterranean. The fourth and last pressure fall during this month occurred as a result of northwestward elongation of a thermal trough over North Arabia.

Apart from the above mentioned periods of transitory depressions, the barometric pressure in U.A.R. was above normal and high pressure established over the Mediterranean & NE Africa.

The most important features of pressure distribution over the 700 & 500mb. upper air charts were :

— Two deep upper low pressure systems, one over North Atlantic and the other over North Urasia.

— Secondary upper lows (or troughs) through middle latitudes between 30° & 45° N, traversing East Mediterranean on the 6th, 17th, 24th & 29th.

— Upper high pressure system over the subtropical latitudes south of 30° N.

SURFACE WINDS

The most prevailing winds during this month were generally light to moderate Nly. Winds changed to SE/SW in advance of the travelling depressions, and to W/NW in their rears. Surface winds became fresh to strong during several days in scattered parts mainly in west of the Mediterranean, Western Desert, Upper Egypt and Red Sea districts. On the other hand, calms were frequent most of night and early morning intervals in scattered places.

Gales were reported oveé Luxor on the 15th and over Hurghada on the 30th.

TEMPERATURE

Maximum air temperature showed large variability during this month. It was appreciably above normal during the khamsin heat waves and mainly during the second wave, and was moderately below normal the rest of the month. Maximum air temperature values ranged most days of the month between 20C° & 30C° in the northern parts, between 23°C & 33°C in the central parts and between 28C° & 38C° in the southern parts.

The absolute maximum air temperature was 42.2C° reported at Farafra on the 15th.

Minimum air temperature was moderately above normal most of the month in the northern parts. In the central and southern parts, it was appreciably above normal during the second heat wave, and moderatly below normal the rest of the month. Minimum air temperature values ranged generally between 12C° & 18C° in the northern and southern parts, and between 8 °C 16°C in the central parts.

The absolute minimum air temperature was 4.0°C reported at Shebin El Kom on the 3rd-

PRECIPITATION

Light rain fell over scattered parts in the Mediterranean, Lower Egypt & Cairo districts between the 21st & 25th, and over local parts in Upper Egypt & Red Sea districts between the 15th & 18th. Rain was locally heavy at Baltean on the 22nd (17.4 mms), at Abu Sueir on the 23rd (30-0 mms) where its daily rainfall amounts are records for April. The monthly rainfall was below normal over most parts of the Republic.

The highest daily rainfall was 30-0 mms reported at Abu Sueir on the 23rd.

The highest monthly rainfall was 32-0 mms reported at Abu Sueir.

Cairo. April 1971

M. F. TAHA
Under Secretary of State
Director General
Meteorological Department

SURFACE DATA

Table A 1.—MONTHLY VALUES OF THE ATMOSPHERIC PRESSURE, AIR TEMPERATURE, RELATIVE HUMIDITY, BRIGHT SUNSHINE DURATION & PICHE EVAPORATION

APRIL — 1968

STATION	Atmospheric Pressure (mbs) M.S.L.		Air Temperature °C									Relative Humidity %		Bright Sunshine Duration (Hours)			Piche Evaporation mms.
			Maximum		Minimum			Dry Bulb		Wet Bulb							
	Mean	D.F. Normal or Average	(A) Mean	D.F. Normal or Average	(B) Mean	D.F. Normal or Average	$\frac{A+B}{2}$	Mean	D.F. Normal or Average	Mean	D.F. Normal or Average	Mean	D.F. Normal or Average	Total Actual	Total Possible	%	Mean
Sallum	1014.9	+1.5	24.5	+0.8	14.6	+1.1	19.6	19.4	+0.5	14.1	+0.3	52	— 4	—	—	—	7.1
Mersa Matruh. (A)	1015.1	+0.7	23.9	+1.2	13.1	+1.1	17.9	18.1	+0.8	14.2	+0.8	52	—12	—	—	—	8.4
Alexandria (A)	1014.8	+0.7	26.2	+2.4	14.2	+0.8	20.2	19.3	+1.1	15.1	+0.5	61	— 5	281.6	388.2	73	6.7
Port Said. (A)	1013.8	+0.1	22.8	+0.3	16.2	—0.6	19.5	—	—	—	—	—	—	287.3	388.2	74	6.0
El Arish.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ghazza.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tanta.	1014.3	+ 1.1	28.6	+0.8	12.6	+1.8	20.6	19.7	+1.0	14.7	+0.8	55	+ 1	293.3	387.8	76	6.5
Cairo. (A)	1013.7	+0.3	29.1	+0.9	15.3	+1.3	22.2	21.7	+0.8	14.3	+0.2	40	— 6	—	—	—	19.4
Fayoum.	—	—	30.9	+1.2	12.9	—0.3	21.9	—	—	—	—	—	—	—	—	—	7.7
Minya. (A)	1012.8	0.0	30.7	+0.1	11.8	—0.1	21.2	21.2	0.0	14.1	+0.2	41	0	320.5	385.1	83	10.8
Assyout. (A)	1012.6	+0.5	31.3	—0.5	15.6	+0.7	23.4	23.1	—0.7	14.0	+0.7	31	+ 7	—	—	—	16.3
Luxor. (A)	1011.8	+1.3	33.2	—1.4	15.1	—0.5	24.1	24.6	—1.2	14.6	—0.5	28	+ 2	—	—	—	12.1
Aswan. (A)	1011.4	+1.7	33.2	—1.9	16.2	—1.4	24.7	25.3	—1.5	13.2	—0.1	17	+ 5	—	—	—	24.6
Siwa	1013.6	+0.2	31.2	+1.4	13.3	+1.1	22.2	22.1	+0.5	13.7	+0.6	34	+ 2	—	—	—	13.5
Bahariya.	1013.9	+1.5	30.5	+0.5	10.8	—2.0	20.6	22.4	0.0	13.2	—0.1	28	— 1	—	—	—	10.9
Farafra.	1014.8	+0.9	31.5	+0.3	13.6	+0.3	22.5	22.8	+0.1	11.4	—0.2	23	0	—	—	—	16.7
Dakhla.	1013.4	+2.2	32.1	—0.7	13.3	—0.7	22.7	22.9	—1.0	12.7	+0.1	23	+ 5	—	—	—	17.2
Kharga.	1012.3	+1.0	32.8	—0.5	15.9	+0.4	24.3	25.1	+0.3	12.7	—0.9	20	— 3	325.0	382.1	85	20.5
Tor.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hurghada.	1011.8	+0.9	28.3	+2.0	15.9	—0.3	22.1	22.5	+0.2	15.2	—0.5	42	— 5	—	—	—	14.6
Quseir	1012.7	+2.1	27.1	—0.1	18.9	—0.6	23.0	23.2	—0.3	16.3	—0.4	45	— 1	—	—	—	13.8

Table A 2.—MAXIMUM AND MINIMUM AIR TEMPERATURES

APRIL — 1968

Station	Maximum Temperature °C									Grass Min. Temp.		Minimum Temperature °C							
	Highest	Date	Lowest	Date	No. of Days with Max-Temp.					Mean	Dev. From Normal	Highest	Date	Lowest	Date	No. of Days with Min. Temp.			
					>25	>30	>35	>40	>45							<10	<5	<0	<-5
Sallum	38.2	12	23.0	13	10	4	3	0	0	14.7	—	23.0	13	9.9	21	1	0	0	0
Mersa Matruh (A)	39.0	14	18.7	1	10	4	2	0	0	—	—	19.2	14	8.0	8	4	0	0	0
Alexandria (A)	37.7	13—14	19.8	21	15	6	3	0	0	—	—	19.2	15	7.4	3	2	0	0	0
Port Said (A)	27.5	11	19.2	1	5	0	0	0	0	15.6	—	20.0	15	11.8	3	0	0	0	0
El Arish	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ghazza	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tanta	40.6	14	21.4	22	21	10	4	1	0	—	—	18.4	16	7.6	3	3	0	0	0
Cairo (A)	40.7	15	19.7	23	21	10	6	2	0	—	—	24.1	13	10.6	3	0	0	0	0
Fayoum	40.2	16	23.1	1	25	17	6	1	0	11.0	—	18.5	16	7.4	3	4	0	0	0
Minya (A)	40.7	16	23.0	1	26	16	6	1	0	9.2	—	18.9	15	6.2	3	10	0	0	0
Assyout (A)	40.0	16	22.5	1	28	18	6	0	0	15.9	—	24.7	16	9.3	1	2	0	0	0
Luxor (A)	41.0	14	24.8	1	29	21	10	2	0	9.9	—	23.8	16	9.4	3	2	0	0	0
Aswan (A)	40.2	15	25.1	1	30	23	10	1	0	—	—	23.0	15	10.2	2	0	0	0	0
Siwa	41.0	14	23.8	21—22	26	19	7	2	0	10.2	—	19.6	16	6.5	1	4	0	0	0
Bahariya	40.7	15	22.1	21	24	18	6	1	0	11.9	—	21.8	15	7.6	1	6	0	0	0
Farafra	42.2	15	24.2	1—21	27	20	7	2	0	13.4	—	21.5	15	7.7	3	5	0	0	0
Dakhla	40.5	15	25.2	21	30	20	9	3	0	—	—	19.6	11	5.2	3	7	0	0	0
Kharga	40.6	15	25.2	1	30	21	9	2	0	10.1	—	27.8	16	8.0	3	3	0	0	0
Tor	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hurghada	37.1	16	23.1	1	27	7	1	0	0	15.0	—	23.4	17	10.6	5	0	0	0	0
Quseir	34.2	14	22.2	1	26	4	0	0	0	17.1	—	24.7	16	14.0	4	0	0	0	0

Table A 3.—SKY COVER AND RAINFALL

APRIL — 1968

Station	Mean Sky Cover Oct					Rainfall mms									
	00 U.T.	06 U.T.	12 U.T.	18 U.T.	Daily Mean	Total Amount	Dev. From Normal	Max. Fall in one day		Number of Days With Amount of Rain						
								Amount	Date	< 0.1	≥ 0.1	≥ 1.0	≥ 5.0	≥ 10	≥ 25	≥ 50
Sallum	1.1	3 3	2.5	2.4	2.4	0 0	— 1.1	0.0	—	0	0	0	0	0	0	0
Mersa Matruh (A)	2.3	4 1	3.8	2.7	3.0	1.8	— 0.7	1.2	20	0	2	1	0	0	0	0
Alexandria (A)	3.6	3.9	3.0	2.4	3.3	6.8	+ 3.7	4.3	21	0	3	2	0	0	0	0
Port Said (A)	—	2.6	2.0	—	—	0.0	— 3.1	0.0	—	0	0	0	0	0	0	0
El Arish	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0
Ghazza	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0
Tanta	0.9	2.5	2.6	0.6	1.6	1.7	— 0.4	1.2	23	0	2	1	0	0	0	0
Cairo (A)	3.0	4.1	2.7	1.7	2.7	0.9	+ 0.1	0.7	23	0	2	0	0	0	0	0
Fayoum	—	2.1	2.5	2.2	—	0.0	— 0.7	0.0	—	0	0	0	0	0	0	0
Minya (A)	0.6	1.5	1.8	1.1	1.4	0.0	— 0.4	0.0	—	0	0	0	0	0	0	0
Assyout (A)	0.9	1.4	1.4	1.3	1.3	0.0	— tr.	0.0	—	0	0	0	0	0	0	0
Luxor (A)	0.9	1.3	2.0	1.3	1.4	tr.	+ tr.	tr.	15	1	0	0	0	0	0	0
Aswan (A)	0.9	1.2	1.9	1.7	1.5	7.2	+ 7.2	7.2	16	0	1	1	1	0	0	0
Siwa	0.4	1.0	2.2	1.0	1.2	0.0	— 0.9	0.0	—	0	0	0	0	0	0	0
Bahariya	0.8	1.5	1.7	1.5	1.4	0.0	— 0.5	0.0	—	0	0	0	0	0	0	0
Farafra	—	1.1	1.4	1.1	—	0.0	— 0.1	0.0	—	0	0	0	0	0	0	0
Dakhla	0.0	0.4	0.9	0.7	0.6	0.2	+ 0.2	0.2	16	0	1	0	0	0	0	0
Kharga	0.6	0.9	1.1	0.9	0.9	tr.	0.0	tr.	15	1	0	0	0	0	0	0
Tor	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hurghada	1.0	1.9	2.7	2.3	1.9	tr.	0.0	tr.	18	1	0	0	0	0	0	0
Quseir	0.9	1.8	2.1	1.7	1.6	0.1	0.0	0.1	18	2	1	0	0	0	0	0

Table A 4.—DAYS OF OCCURRENCE OF MISCELLANEOUS WEATHER PHENOMENA

APRIL — 1968

Station	Precipitation				Frost	Thunderstorm	Mist Vis ≥ 1000 metres	Fog Vis < 1000 Metres	Haze Vis ≥ 1000 Metres	Thick Haze Vis < 1000 Metres	Dust or Sandrising Vis ≥ 1000 Metres	Dust or Sandstorm Vis < 1000 Metres	Gale	Clear Sky	Cloudy Sky
	Rain	Snow	Ice. Pellets	Hail											
Sallum.	0	0	0	0	0	0	0	2	0	0	1	0	0	12	0
Mersa Matruh. .(A)	2	0	0	0	0	0	1	2	0	0	4	0	0	10	1
Alexandria. . . .(A)	3	0	0	0	0	0	2	2	5	0	0	0	0	10	4
Port Said. . . .(A)	0	0	0	0	0	0	0	1	0	0	—	0	0	—	—
El Arish.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ghazza.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tanta.	2	0	0	0	0	0	5	1	0	0	0	0	0	19	0
Cairo. . . . . .(A)	2	0	0	0	0	0	8	2	8	0	1	0	0	10	1
Fayoum.	0	0	0	0	0	0	0	0	0	0	0	0	0	—	—
Minya. . . . . .(A)	0	0	0	0	0	0	2	0	4	0	5	0	0	23	0
Assyout. . . . .(A)	0	0	0	0	0	0	0	0	3	0	3	1	0	23	0
Luxor. . . . . .(A)	0	0	0	0	0	0	0	0	7	0	9	3	1	22	1
Aswan. . . . . .(A)	1	0	0	0	0	0	0	0	2	0	7	1	0	22	0
Siwa.	0	0	0	0	0	0	0	0	0	0	1	0	0	23	0
Bahariya.	0	0	0	0	0	0	0	0	0	0	0	0	0	24	0
Farafra.	0	0	0	0	0	0	0	0	2	0	2	0	0	—	—
Dakhla.	1	0	0	0	0	0	0	0	16	0	21	1	0	24	0
Kharga.	0	0	0	0	0	0	0	0	1	0	5	0	0	25	0
Tor.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hurghada.	0	0	0	0	0	0	0	0	0	0	7	0	1	15	2
Quseir	1	0	0	0	0	2	0	0	2	0	1	0	0	21	2

Table A 5.—NUMBER IN HOURS OF OCCURRENCES OF CONCURRENT SURFACE WIND SPEED AND DIRECTION RECORDED WITHIN SPECIFIED RANGES

APRIL — 1968

Station	Calm (hours)	Variable (hours)	Unrecorded (hours)	Wind speed in knots	Number in hours of occurrences of wind blowing from the ranges of directions indicated												All directions
					345 / 014	015 / 044	045 / 074	075 / 104	105 / 134	135 / 164	165 / 194	195 / 224	225 / 254	255 / 284	285 / 314	315 / 344	
Sallum	19	0	6	1—10	36	43	65	88	65	19	16	20	13	30	52	51	498
				11—27	18	16	1	0	1	0	2	11	9	17	49	73	197
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥ 48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**54**	**59**	**66**	**88**	**66**	**19**	**18**	**31**	**22**	**47**	**101**	**124**	**695**
Mersa Matruh (A)	6	1	0	1—10	43	64	22	15	25	46	20	22	8	47	27	16	355
				11—27	41	25	7	17	17	30	21	15	13	28	52	92	358
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥ 48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**84**	**89**	**29**	**32**	**42**	**76**	**41**	**37**	**21**	**75**	**79**	**108**	**713**
Alexandria (A)	0	1	0	1—10	62	65	54	42	47	15	7	16	14	21	88	185	616
				11—27	13	19	2	2	0	0	0	1	4	4	13	45	103
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥ 48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All Speeds	**75**	**84**	**56**	**44**	**47**	**15**	**7**	**17**	**18**	**25**	**101**	**230**	**719**
Port Said (A)	1	2	0	1—10	200	119	55	14	3	1	0	3	29	58	46	85	613
				11—27	11	5	6	0	0	0	0	0	16	8	19	39	104
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥ 48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**211**	**124**	**61**	**14**	**3**	**1**	**0**	**3**	**45**	**66**	**65**	**124**	**717**
Fayoum	40	2	0	1—10	148	229	23	24	7	7	10	18	20	51	27	81	645
				11—27	1	13	0	0	0	0	0	0	4	11	1	3	33
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥ 48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**149**	**242**	**23**	**24**	**7**	**7**	**10**	**18**	**24**	**62**	**28**	**84**	**678**
Minya	34	9	0	1—10	208	56	10	7	4	7	29	24	14	24	36	89	508
				11—27	120	12	0	0	0	0	0	0	0	4	22	11	169
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥ 48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**328**	**68**	**10**	**7**	**4**	**7**	**29**	**24**	**14**	**28**	**58**	**100**	**677**
Asyout (A)	3	0	0	1—10	11	17	23	30	38	17	6	3	16	174	118	66	519
				11—27	16	11	0	3	11	5	1	0	0	7	67	76	197
				28—47	0	0	1	0	0	0	0	0	0	0	0	0	1
				≥ 48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**27**	**28**	**24**	**33**	**49**	**22**	**7**	**3**	**16**	**181**	**185**	**142**	**717**
Luxor	1	10	0	1—10	62	41	27	39	16	37	83	37	31	68	115	74	630
				11—27	5	5	19	0	2	3	6	0	1	13	23	2	78
				28—47	0	0	0	1	0	0	0	0	0	0	0	0	1
				≥ 48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**67**	**46**	**46**	**40**	**18**	**40**	**88**	**37**	**32**	**81**	**138**	**76**	**709**

Table A 5. (*contd.*)—NUMBER IN HOURS OF OCCURRENCES OF CONCURRENT SURFACE WIND SPEED AND DIRECTION RECORDED WITHIN SPECIFIED RANGES

APRIL — 1968

Station	Calm (hours)	Variable (hours)	Unrecorded (hours)	Wind speed in knots	Mumber in hours of occurrences of wind blowing from the ranges of directions indication												
					345 / 014	015 / 044	045 / 074	075 / 104	105 / 134	135 / 164	165 / 194	195 / 224	225 / 254	255 / 284	285 / 314	315 / 344	All directions
Aswan . . . . . (A)	1	4	4	1—10	172	84	30	18	22	5	3	2	4	12	42	121	51
				11—27	34	15	10	1	29	3	0	0	0	6	36	60	19
				28—47	0	0	0	0	0	0	0	0	0	1	0	1	
				≥ 48	0	0	0	0	0	0	0	0	0	0	0	0	
				All speeds	**206**	**99**	**40**	**19**	**51**	**8**	**3**	**2**	**4**	**19**	**78**	**182**	**71**
Siwa	20	16	3	1—10	23	43	50	121	86	42	27	21	30	46	53	52	59
				11—27	3	6	0	2	6	8	3	0	0	8	32	19	8
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	
				≥ 48	0	0	0	0	0	0	0	0	0	0	0	0	
				All speeds	**26**	**49**	**50**	**123**	**92**	**50**	**30**	**21**	**30**	**54**	**85**	**71**	**68**
Dakhla	16	0	0	1—10	39	46	34	30	31	25	54	36	38	57	83	127	60
				11—27	25	14	4	0	1	2	0	0	0	0	19	39	10
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	
				≥ 48	0	0	0	0	0	0	0	0	0	0	0	0	
				All speeds	**64**	**60**	**38**	**30**	**32**	**27**	**54**	**36**	**38**	**57**	**102**	**166**	**70**
Kharga	9	4	2	1—10	123	60	30	21	16	4	5	4	8	24	75	182	55
				11—27	34	3	4	1	2	0	0	0	2	2	23	82	15
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	
				≥ 48	0	0	0	0	0	0	0	0	0	0	0	0	
				All speeds	**157**	**63**	**34**	**22**	**18**	**4**	**5**	**4**	**10**	**26**	**98**	**264**	**70**
Tanta . . . . . (A)	8	0	0	1—10	61	84	79	23	7	2	25	75	70	112	62	80	68
				11—27	9	2	1	0	0	0	0	4	1	1	6	8	3
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	
				≥ 48	0	0	0	0	0	0	0	0	0	0	0	0	
				All speeds	**70**	**86**	**80**	**23**	**7**	**2**	**25**	**79**	**71**	**113**	**68**	**88**	**71**
Cairo . . . . . (A)	0	6	50	1—10	33	61	50	41	5	7	4	20	24	44	74	101	46
				11—27	37	40	31	22	10	0	0	1	7	24	12	16	20
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	
				≥ 48	0	0	0	0	0	0	0	0	0	0	0	0	
				All speeds	**70**	**101**	**81**	**63**	**15**	**7**	**4**	**21**	**31**	**68**	**86**	**117**	**66**
Hurghada	23	0	12	1—10	17	47	35	9	17	27	9	5	7	37	82	44	33
				11—27	75	27	0	1	9	11	1	0	1	9	91	112	33
				28—47	0	0	0	0	0	0	0	0	0	0	1	11	1
				≥ 48	0	0	0	0	0	0	0	0	0	0	0	0	
				All speeds	**92**	**74**	**35**	**10**	**26**	**38**	**10**	**5**	**8**	**46**	**174**	**167**	**68**
Quseir	13	0	0	1—10	105	38	9	19	13	24	19	16	60	94	83	72	55
				11—27	54	1	0	0	1	6	0	0	1	8	20	64	15
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	
				≥ 48	0	0	0	0	0	0	0	0	0	0	0	0	
				All speeds	**159**	**39**	**9**	**19**	**14**	**30**	**19**	**16**	**61**	**102**	**103**	**136**	**70**

UPPER AIR CLIMATOLOGICAL DATA

Table B 1.—MONTHLY MEANS AND MONTHLY ABSOLUTE HIGHER & LOWER VALEUS OF ALTITUDE, AIR TEMPERATURE & DEW POINT AT STANDARD AND SELECTED PRESSURE SURFACES

APRIL — 1968

Station	Presure Surface (Millibar)	Altitude of Pressure Surface (gpm)				Temperature (°C)				Dew point (°C)	
		N	Mean	Highest	Lowest	N	Mean	Highest	Lowest	N	Mean
Mersa Matruh (A) 0000 UT	Surface	26	*1014m.b.	*1021m.b.	*1005m.b.	26	15.3	20.6	10.8	17	10.7
	1000	26	151	205	103	26	16.9	25.4	12.1	9	9.2
	850	26	1525	1573	1459	26	11.9	23.0	— 1.0	8	— 2.3
	700	24	3118	3198	3000	24	2.3	7.9	— 5.1	6	—10.3
	600	24	4348	4432	4190	24	— 6.7	2.7	—14.6	2	—14.0
	500	24	5729	5836	5546	24	—16.8	—13.4	—21.9	8	—23.0
	400	23	7377	7483	7138	23	—29.3	—26.4	—34.4	1	—30.0
	300	23	9369	9497	9100	23	—44.6	—42.3	—47.8	—	—
	250	19	10671	10702	10300	19	—52.7	—47.1	—56.0	—	—
	200	17	11997	12102	11755	17	—53.6	—50.0	—58.1	—	—
	150	10	13797	13890	13626	10	—58.9	—53.8	—63.4	—	—
	100	8	16309	16420	16184	8	—63.1	—57.9	—69.0	—	—
	70	4	18482	18540	18400	4	—63.6	—59.0	—68.0	—	—
	60	4	19421	19528	19275	4	—61.0	—58.0	—66.5	—	—
	50	3	20619	20780	20583	3	—56.3	—55.8	—57.2	—	—
	40	1	22113	—	—	1	—52.0	—	—	—	—
	30	1	24001	—	—	1	—46.5	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—
Helwan 0000 UT	Surface	28	*994m.b.	*1001m.b.	*991m.b.	28	18.3	30.1	11.9	28	6.1
	1000	28	116	158	55	6	15.8	21.0	11.9	4	5.3
	850	28	1499	1547	1444	28	13.3	22.5	5.3	13	— 1.0
	700	28	3100	3170	3097	28	2.8	7.4	— 5.7	11	— 9.3
	600	27	4328	4410	4217	27	— 5.6	— 1.8	—15.0	11	—18.1
	500	27	5743	5831	5607	27	—15.4	—11.7	—23.0	11	—27.1
	400	27	7375	7491	7204	27	—28.3	—23.4	—37.3	10	—38.1
	300	27	9374	9571	9154	27	—43.5	—41.5	—48.4	10	—51.7
	250	26	10579	10715	10377	26	—51.6	—45.5	—60.4	9	—57.0
	200	27	12009	12115	11822	27	—57.5	—45.8	—66.0	10	—60.6
	150	23	13804	13952	13665	23	—59.3	—54.4	—66.6	5	—63.9
	100	12	16256	16456	16058	12	—64.7	—61.2	—70.4	4	—70.1
	70	—	—	—	—	—	—	—	—	—	—
	60	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—
	30	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—
Aswan 0000 UT	Surface	24	*988m.b.	*997m.b.	*983m.b.	24	20.1	28.0	13.0	24	0·5
	1000	24	92	151	43	—	—	—	—	—	—
	850	24	1488	1534	1438	24	16.5	21.4	7.8	4	—11.9
	700	22	3104	3143	3039	22	5.5	9.3	— 4.0	2	—18.4
	600	22	4347	4393	4242	22	— 2.0	1.4	— 9.9	2	—20.8
	500	22	5643	5826	5625	22	—11.8	— 9.4	—16.6	2	—23.4
	400	22	7447	7509	7363	22	—23.9	—20.1	—27.2	2	—32.6
	300	19	9480	9576	9384	19	—39.4	—32.0	—48.7	—	—
	250	18	10707	10810	10606	18	—47.7	—42.0	—51.8	—	—
	200	17	12161	12251	12075	17	—55.0	—48.6	—60.2	—	—
	150	14	13959	14044	13833	14	—61.0	—57.4	—68.7	—	—
	100	6	16482	16499	16300	6	—70.6	—67.2	—72.7	—	—
	70	—	—	—	—	—	—	—	—	—	—
	60	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—
	30	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—

N = The number of cases the element has been observed during the month.

* The atmospheric pressure corrected to the elevation of the radiosonde station.

UPPER AIR CLIMATOLOGICAL DATA

Table B 1. (*contd.*)—MONTHLY MEANS AND MONTHLY ABSOLUTE HIGHER & LOWER VALUES OF ALTITUDE, AIR TEMPERATURE & DEW POINT AT STANDARD AND ELECTED PRESSURE SURFACES

APRIL — 1968

Station	Pressure Surface (Millibar)	Altitude of Pressure Surface (gpm)				Temperature (°C)				Dew Point (°C)	
		N	Mean	Highest	Lowest	N	Mean	Highest	Lowest	N	Mean
Mersa Matruh (A) 1200 UT	Surface	26	*1015m.b.	*1022m.b.	*1010m.b.	26	21.6	35.6	11.8	17	13.2
	1000	26	154	213	114	26	20.1	34.8	14.4	10	9.4
	850	26	1536	1584	1476	26	13.4	23.4	3.6	8	— 0.7
	700	25	3132	3231	3031	25	3.1	9.9	— 4.2	5	— 9.5
	600	25	4362	4486	4228	25	— 5.2	— 1.2	—11.9	3	—14.6
	500	24	5766	5908	5600	24	—15.0	— 6.8	—22.4	2	—21.6
	400	24	7410	7582	7218	24	—28.2	—22.4	—35.5	—	—
	300	22	9410	9623	9166	22	—42.2	—40.5	—45.4	—	—
	250	21	10619	10843	10374	21	—50.9	—45.5	—55.0	—	—
	200	19	12048	12271	11860	19	—56.2	—48.2	—65.6	—	—
	150	15	13889	14095	13746	15	—57.3	—52.3	—63.7	—	—
	100	12	16407	16581	16325	12	—62.2	—56.4	—69.0	—	—
	70	2	18630	18660	18600	2	—62.8	—59.7	—66.0	—	—
	60	2	19589	19613	19515	2	—62.6	—62.1	—63.0	—	—
	50	1	20705	—	—	1	—57.5	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—
	30	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—
Helwan 1200 UT	Surface	27	*997m.b.	*1002m.b.	*990m.b.	27	28.1	38.2	19.8	24	4.0
	1000	27	112	158	50	27	25.3	29.7	20.8	3	4.9
	850	27	1509	1557	1446	27	14.3	24.0	5.6	13	— 3.8
	700	27	3112	3192	3025	27	3.4	8.2	— 2.6	13	—14.9
	600	27	4350	4434	4248	27	— 4.5	— 1.1	— 9.6	12	—21.0
	500	27	5754	5859	5634	27	—14.5	—10.5	—19.7	12	—28.7
	400	27	7401	7525	7267	27	—27.0	—23.7	—32.4	12	—40.8
	300	27	9415	9556	9255	27	—42.6	—39.2	—49.0	12	—54.0
	250	27	10626	10772	10455	27	—47.2	—44.0	—58.2	12	—59.9
	200	26	12055	12185	11854	26	—55.8	—47.2	—63.3	12	—63.4
	150	26	13882	13995	13658	26	—57.6	—51.6	—65.2	12	—67.3
	100	21	16422	16512	16311	21	—62.7	—57.8	—66.2	7	—70.7
	70	3	18627	18680	18540	3	—61.3	—59.4	—64.4	1	—68.8
	60	1	19605	—	—	1	—61.3	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—
	30	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—
Aswan (A) 1200 UT	Surface	24	*989m.b.	*995m.b.	*983m.b.	24	31.5	39.0	24.0	23	—2.3
	1000	24	87	149	37	—	—	—	—	—	—
	850	24	1506	1546	1468	24	18.0	26.2	10.9	5	— 5.4
	700	24	3123	3169	3073	24	6.8	17.1	3.4	4	—17.8
	600	23	4373	4417	4308	23	— 0.8	3.8	— 6.9	2	—22.4
	500	23	5805	5872	5715	23	—10.2	— 8.4	—13.0	2	—29.8
	400	21	7482	7558	7286	21	—22.7	—17.9	—25.8	1	—40.7
	300	18	9533	9641	9431	18	—37.4	—32.2	—40.7	—	—
	250	16	10786	10885	10697	16	—46.4	—39.6	—49.6	—	—
	200	16	12245	12333	12139	16	—53.1	—47.6	—57.5	—	—
	150	15	14076	14145	13975	15	—59.0	—53.8	—62.6	—	—
	100	9	16564	16688	16456	9	—66.4	—61.7	—71.6	—	—
	70	1	18845	—	—	1	—62.8	—	—	—	—
	60	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—
	30	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—

N = The number of cases the element has been observed during the month.

* The atmospheric pressure corrected to the elevation of the radiosonde station.

Table B 2.—MEAN AND EXTREME VALUES OF THE FREEZING LEVEL AND THE TROPOPAUSE; THE HIGHEST WIND SPEED IN THE UPPER AIR

APRIL — 1968

	Station	Freezing Level									First Tropopause									Highest wind speed			
		Mean			Highest			Lowest			Mean			Highest			Lowest						
		Altitude (gpm)	Pressure (mb.)	Dew point (°C)	Altitude (gpm)	Pressure (mb.)	Dew point (°C)	Altitude (gpm)	Pressure (mb.)	Dew point (°C)	Altitude (gpm)	Pressure (mb.)	Temperature (°C)	Altitude (gpm)	Pressure (mb.)	Temperature (°C)	Altitude (gpm)	Pressure (mb.)	Temperature (°C)	Altitude (gpm)	Pressure (mb.)	Direction (000—360)°	Speed in Knots
0000 U.T.		(N)	(N)	(N)							(N)	(N)	(N)										
	Mersa Matruh (A)	3248 (23)	671 (23)	—11.3 (5)	4085	625	—	1570	838	—	11067 (11)	228 (11)	—57.7 (11)	12150	195	—64.5	9490	279	—49.4	12400	195	295	110
	Helwan	3362 (27)	680 (27)	—9.1 (11)	4100	623	—	2120	784	—6.4	11765 (24)	212 (24)	—59.1 (24)	15320	117	—62.4	7940	360	—43.4	11670	215	300	148
	Aswan . . . (A)	4035 (22)	623 (22)	— —	4610	582	—	2400	758	—	15500 (1)	118 (1)	—67.0 (1)	—	—	—	—	—	—	—	—	—	—
1800 U.T.		(N)	(N)	(N)							(N)	(N)	(N)										
	Mersa Matruh (A)	3363 (26)	655 (26)	—6.0 (5)	4240	615	—	1985	800	—4.8	11174 (17)	232 (17)	—56.1 (17)	12430	188	—63.0	8150	351	—43.6	14810	130	320	103
	Helwan	3596 (27)	655 (27)	—16.2 (12)	4220	612	—	2440	739	—13.2	11951 (26)	202 (26)	—57.5 (26)	15060	124	—62.0	9610	284	—44.5	14830	127	320	138
	Aswan . . . (A)	4137 (23)	615 (23)	—20.3 (3)	4780	574	—	2690	737	—	14338 (5)	150 (5)	—62.5 (5)	15740	115	—69.9	10440	265	—44.5	13790	212	290	118

N = The number of cases the element has been observed during the month.

Table B 3.—NUMBER OF OCCURRENCES OF WIND DIRECTION WITHIN SPECIFIED RANGES AND THE MEAN CALAR WIND SPEED AT THE STANDARD AND SELECTED PRESSURE SURFACES

MERSA MATRUH (A) — APRIL 1968

Time	Pressure Surface Millibar	Wind between specified ranges of direction (000—360)°																						Number of calm winds	Total number of observations (TN)	Mean scalar wind
		345 / 014		015 / 044		045 / 074		075 / 104		105 / 134		135 / 164		165 / 194		195 / 224		225 / 254		255 / 284		285 / 314		315 / 344				
		N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m			
0000 U.T.	Surface	3	10	0	—	0	—	0	—	5	10	0	—	1	8	0	—	3	8	4	9	5	11	3	8	2	26	9
	1000	2	10	0	—	0	—	0	—	2	20	1	27	0	—	1	7	0	—	0	—	3	10	2	10	0	11	10
	850	1	3	2	12	0	—	0	—	0	—	0	—	2	10	1	15	0	—	1	10	1	9	2	10	0	10	10
	700	3	22	0	—	0	—	0	—	0	—	0	—	0	—	1	10	2	13	1	15	2	18	1	26	0	10	18
	600	1	40	0	—	0	—	0	—	0	—	0	—	0	—	1	13	0	—	2	10	4	29	2	32	0	10	26
	500	1	50	0	—	0	—	0	—	0	—	0	—	0	—	0	—	3	20	1	38	3	30	2	26	0	10	29
	400	1	53	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	17	3	31	3	41	2	30	0	10	35
	300	1	63	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	30	2	32	4	77	1	37	0	9	48
	250	2	70	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	38	2	76	1	78	0	7	64
	200	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	55	2	90	2	70	0	5	75
	150	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	60	0	—	0	2	60
	100	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	33	0	—	0	1	33
	70	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	60	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1200 U.T.	Surface	3	7	4	10	1	10	2	12	0	—	2	13	0	—	0	—	0	—	0	—	6	18	8	14	0	26	14
	1000	3	10	3	10	0	—	2	12	0	—	1	18	1	13	1	20	0	—	0	—	4	23	9	15	1	25	15
	850	2	10	2	11	0	—	0	—	1	3	1	10	2	14	1	17	1	20	4	19	6	12	4	11	0	24	13
	700	1	22	2	24	0	—	0	—	1	7	1	12	2	13	0	—	2	14	6	16	3	23	5	19	0	23	17
	600	3	30	1	81	0	—	0	—	0	—	1	7	1	12	1	5	0	—	2	22	11	22	2	24	0	22	22
	500	1	36	0	—	0	—	0	—	0	—	0	—	0	—	0	—	4	18	6	26	6	32	4	31	0	21	29
	400	2	32	0	—	0	—	0	—	0	—	0	—	0	—	1	29	1	3	6	30	4	48	3	40	0	17	34
	300	3	48	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	34	0	—	5	51	2	50	0	12	47
	230	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	42	2	69	4	60	2	60	0	10	58
	200	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	3	53	0	—	3	73	0	6	63
	150	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	58	1	61	2	91	0	5	72
	100	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	64	0	1	64
	70	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	60	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

N = The number of cases the wind has been observed from the range of direction during the month.
TN = The total number of cases the wind has been observed for all directions during themonth.

Table B 3 *(contd.)*.—NUMBER OF OCCURRENCES OF WIND DIRECTION WITHIN SPECIFIED RANGES AND THE MEAN SCALAR WIND SPEED AT THE STANDARD AND SELECTED PRESSURE SURFACES

HELWAN—APRIL 1968

Time	Pressure Surface Millibar	Wind between specified ranges of direction (000—360)°																						Number of calm winds	Total number of observations (TN)	Mean scalar wind speed (knots)
		345 / 014		015 / 044		045 / 074		075 / 104		105 / 134		135 / 164		165 / 194		195 / 224		225 / 254		255 / 284		285 / 314		315 / 344				
		N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m			
0000 U.T.	Surface	6	8	10	11	2	19	3	14	1	2	0	—	0	—	0	—	0	—	0	—	0	—	5	7	1	28	10
	1000	1	9	3	10	0	—	2	3	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	6	11
	850	2	8	4	16	3	14	1	9	2	8	1	6	3	13	0	—	2	18	2	11	3	15	5	12	0	28	13
	700	4	18	2	22	2	18	1	6	0	—	0•	—	3	8	0	—	1	9	5	17	5	18	4	32	0	27	18
	600	3	30	3	21	0	—	0	—	0	—	1	3	0	—	1	13	2	8	5	26	5	14	7	29	0	27	22
	500	2	36	3	33	1	2	0	—	0	—	0	—	0	—	0	—	1	22	6	16	6	30	7	30	0	26	26
	400	7	28	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	6	40	6	37	7	40	0	26	36
	300	2	60	1	19	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	23	7	47	8	28	0	20	49
	250	4	47	0	—	0	—	0	—	0	—	0	—	0	—	2	22	0	—	4	59	5	52	2	76	0	17	52
	200	1	32	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	13	3	48	2	72	5	61	0	12	53
	150	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	43	6	51	0	—	0	7	50
	100	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	31	0	—	0	1	31
	70	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	60	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1200 U.T.	Surface	8	11	2	8	0	—	1	10	0	—	0	—	0	—	0	—	1	6	5	7	6	9	3	15	1	27	10
	1000	2	16	2	4	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	13	1	4	0	—	0	6	10
	850	2	12	5	13	3	19	2	16	3	9	1	5	0	—	1	9	3	19	1	25	4	10	1	6	0	26	13
	700	4	42	3	9	3	21	1	27	2	16	0	—	0	—	1	7	3	28	3	23	4	16	2	16	0	26	22
	600	6	29	2	15	0	—	0	—	1	13	1	8	0	—	2	9	2	28	2	38	5	16	5	17	0	26	21
	500	5	48	0	—	0	—	0	—	0	—	0	—	0	—	0	—	5	18	2	66	5	10	8	23	0	25	27
	400	3	44	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	14	3	32	7	26	6	30	0	21	31
	300	3	53	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	28	6	50	8	52	3	36	0	21	48
	250	2	112	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	38	6	54	6	48	3	44	0	18	50
	200	1	15	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	5	44	4	57	4	58	0	14	50
	150	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	60	6	53	3	43	0	10	51
	100	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	45	1	33	0	2	39
	70	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	16	0	—	0	—	0	—	0	1	16
	60	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

N = The number of cases the winds has been observed from the range of direction during the month.

TN = The total number of cases the wind has been observed for all directions during the month.

Table B 3 (*contd.*).—NUMBER OF OCCURRENCES OF WIND DIRECTION WITHIN SPECIFIED RANGES AND THE MEAN SCALAR WIND SPEED AT THE STANDARD AND SELECTED PRESSURE SURFACES

ASWAN (A)— APRIL 1968

Time	Pressure Surface Millibar	Wind between specified ranges of direction (000—300)°																								Number of calm winds	Total number of observations (TN)	Mean scalar wind speed (knots)
		345 / 014		015 / 044		045 [074		075 / 104		105 / 134		135 / 164		165 / 194		195 / 224		225 / 254		255 / 284		285 / 314		315 / 344				
		N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m			
0000 U.T.	Surface	5	11	3	8	3	10	1	9	0	—	0	—	0	—	0	—	0	—	1	8	2	12	8	8	1	24	9
	1000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	850	2	16	5	13	1	4	5	22	0	—	0	—	0	—	0	—	1	14	1	17	5	12	4	15	0	24	15
	700	3	19	2	15	3	13	0	—	0	—	0	—	1	14	0	—	2	20	3	15	4	21	2	32	0	20	19
	600	1	30	0	—	0	—	0	—	0	—	0	—	0	—	1	5	0	—	1	24	0	—	2	26	0	5	22
	500	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	37	1	8	2	34	1	40	0	5	31
	400	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	47	0	—	0	—	0	—	0	1	47
	300	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	250	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	200	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	150	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	100	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	70	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	60	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1200 U.T.	Surface	4	11	4	11	4	9	1	15	1	22	1	18	0	—	0	—	1	16	0	—	2	14	6	11	0	24	12
	1000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	850	3	11	0	—	2	10	2	14	2	18	1	7	0	—	0	—	1	20	0	—	7	15	5	11	0	23	13
	700	2	12	4	16	1	13	1	29	2	20	0	—	0	—	0	—	1	35	6	20	2	28	4	24	0	23	21
	600	2	17	0	—	1	17	1	19	1	10	0	—	0	—	0	—	1	49	7	41	3	15	5	15	0	21	26
	500	2	14	1	30	1	3	1	8	0	—	0	—	0	—	0	—	1	55	10	34	5	40	1	26	0	22	31
	400	1	13	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	18	5	53	7	39	1	16	0	16	38
	300	1	19	0	—	0	—	0	—	1	4	0	—	0	—	0	—	1	47	3	40	6	55	0	—	0	12	43
	250	1	18	0	—	0	—	0	—	0	—	0	—	0	—	1	2	2	35	1	50	4	80	1	59	0	10	52
	200	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	5	63	3	70	0	—	0	8	65
	150	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	6	74	1	78	0	—	0	7	75
	100	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	30	0	—	0	—	0	2	30
	70	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	60	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

N = The number of cases the wind has been observed from the range of directions during the month.

TN = The total number of cases the wind has been observed for all directions during the month.

REVIEW OF AGRO-METEOROLOGICAL STATIONS

EL KASR — APRIL 1968

This month was slightly warmer than normal and rainless. The month was characterised by two khamsin heat waves during theperiods: (3rd-4th) & (10th-15th). The first heat wave was of light intensity, but the second wave was excessive and reached its peak on the 14th when the highest maximum air temperature for the month (39.2°C) was reported. A cold spell was experienced on the lst and 2nd and two light cold waves during the periods (5th-8th) and (18th-26th).

The extreme maximum soil tempratures were higher than the corresponding values of last April at all depths between 2 and 100 cms., and the differences ranged between 3.8° C at 2cms. and 0.6°C at 50 cms. The extrememinimum soil temperatures were lower than the corresponding values of last April at depths between 2 & 10cms., and higher at deeper depths between 20 and 100 cms,; the differences were generally slight and ranged between 0.4° and 1.0.°C.

The mean daily pan evaporation was 0.20 mm. more than the corresponding value of April 1967. The mean daily actual durationof bright sunshine was 0.7 hours less than the corresponding value of April 1967.

TAHRIR — APRIL 1968

Compared with last April, this month wasslightly warmer and more rainy. The month was characterised by two khamsin heat wavesduring the periods: (3rd-6th) & (9th-16th), and a warm spell on the 28th. The second heat wave yielded the highest maximum air temperature for the month (40.9°C) on the 14th. A cold spell occurred on the 1st and 2nd and a cold wave during the period (17th-26th) yielding the lowest maximum air temperature for the month (21.3°C) and the highestdaily rainfall amount (3. 7mms.) on the 23rd.

The extreme maximum soil temperatureswere higher than the corresponding values of last Apirl at all depths between 2 & 100cms.,and the differences ranged between 7.0°C at 2 cms. & 0.9°C at 100cms. The extreme minimum soil temperature at 2 cms. depth was slightly higher (0.1 °C) than the corresponding value of last April. At all other depths between 5 & 100 cms. the values were lower than last April with differences ranging between 1.7 °C at 5 cms. & 0.1 °C at 100 cms.

The mean daily Pan evaporation was 0.58 mm. less than the corresponding value of April 1967. The mean daily actual duration of bright sunshine was 0.6 hour less than the corresponding value of April 1967.

BAHTIM — APRIL 1968

This month was nearly the same as last April with respect to the mean daily air temperature. The month was mainly characterised by two khamsin heat waves during the periods (4th-6th), (11th-16th). The first heat wave was of light intensity, but the second wave was excessive and yielded the highest maximum air temperature for the month (39.0 °C) on the 14th. Two cold waves were experienced during the periods (1st-2nd), (18th-26th). The second cold wave was the more pronounced ; it yielded the lowest maximum air temperature for the month (19.8 °C) and the maximum daily rainfall amount (2.5 mm.) on the 23rd.

The extreme maximum soil temperatures were higher than the corresponding values of last April at all depths between 2, 100 cms., and the differences ranged between 7.5 °C at 2 cms. 0.9 °C at 100 cms. The extreme minimum soil temperatures were lower than the corresponding values of last April at 2 & 5 cms. depths and the differences were 1.6 °C & 1.3 °C respectively. At deeper depths between 10 & 100 cms. the values were higher than last April, and the differences ranged between 0.1 °C at 20 cms. & 1.3 °C at 100 cms.

The mean daily Pan evaporation was 1.45 mms. less than the corresponding value of April 1967. The total actual duration of bright sunshine was 22.0 hours less than the corresponding value of April 1967.

KHARGA — APRIL 1968

This month was slightly warmer than normal. The month was characterised by two heat waves during the periods : (4th-7th) and (10th-17th). The second heat wave yielded the highest maximum air temperature for the month (40.6 °C) on the 15th. Two cold waves were experienced during the periods (1st-3rd) and (18th-27th). The first cold wave yielded the lowest maximum air temperature for the month (25.2 °C) on the 1st.

The extreme maximum soil temperatures were higher than the corresponding values of last April at all depths, except at 100 cms. depth where the value was 0.3 °C lower ; the differences ranged between 2.6 °C at both 2 & 10 cms. depths and 0.7 °C at 50 cms. depth. The extreme minimum soil temperatures were higher than the corresponding values of last April at all depths, apart from 10 &20 cms. depths where the values were slightly lower (0.4 to 0.6 °C) ; the differences ranged between 1.3 °C at 2 cms. & 0.2 °C at 100 cms.

The mean daily Pan evaporation was 3.18 mms. less than the corresponding value of April 1967. The mean daily actual duration of bright sunshine was 0.1 hour more than the corresponding value of Apil 1967.

Note : During this month records of the mercury in steel hygrograph were not available at El-Kasr & Bahtim centres. For these centres the mean of day of air temperature, relative humidity and vapour pressure were calculated according to the following equations :

Mean of day of air temperature.

= (0600 + 1200 + 1800) U.T. dry bulb observations + minimum air temperature / 4

Mean of the day of relative humidity.

= (0600 + 1800) U. T. observations/2.

Mean of the day of vapour pressure.

= (0600 + 1200 + 1800) U. T. observations/3.

Table C 1.—AIR TEMPERATURE AT 1½ METRES ABOVE GROUND

APRIL — 1968

STATION	Air Temperature (°C)					Mean Duration in hours of daily air temperature above the following values									
	Mean Max.	Mean Min.	Mean of the day	Night time mean	Day time mean	-5°C	0°C	5°C	10°C	15°C	20°C	25°C	30°C	35°C	40°C	45°C
El Kasr	23.8	12.9	17.7	—	—	—	—	—	—	—	—	—	—	—	—	—
Tahrir	29.1	12.7	20.1	15.9	22.6	24.0	24.0	24.0	23.6	18.2	10.8	5.2	2.0	0.8	0.0	0.0
Bahtim	28.6	10.1	18.4	—	—	—	—	—	—	—	—	—	—	—	—	—
Kharga	33.0	16 0	25.1	21.3	27.4	24.0	24.0	24.0	23.7	22.3	18.4	12.0	5.7	1.8	0.0	0.0

Table C 2.—ABSOLUTE VALUES OF AIR TEMPERATURE AT 1½ METRES ABOVE GROUND, ABSOLUTE MINIMUM AIR TEMPERATURE AT 5cms ABOVE GROUND OVER DIFFERENT FIELDS

APRIL — 1968

STATION	Max. Temp. at 1½ metres				Min. Temp. at 1½ metres				Min. Temp. at 5 cms. above			
	Highest		Lowest		Highest		Lowest		Dry Soil		Grass	
	Value	Date	Value	Date	Value	Date	Value	Date	Value	Date	Value	Date
El Kasr	39.2	14	17.9	14	18.2	6	8.0	8	4.9	2	—	—
Tahrir	40.9	14	21.3	23	17.1	15	6.1	3	4.0	3	—	—
Bahtim	39.0	14	19.8	23	14.9	15	3.7	3	0.3	3	—	—
Kharga	40.6	15	25.2	15	25.3	16	8.0	3	6.3	22	—	—

Table C 3.—(SOLAR + SKY) RADIATION, DURATION OF BRIGHT SUNSHINE, RELATIVE HUMIDITY & VAPOUR PRESSURE AT 1½ METRES ABOVE GROUND, EVAPORATION & RAINFALL

APRIL — 1968

STATION	Solar+Sky Radiation gm. cal/cm²	Duration of Bright Sunshine (hours)			Relative Humidity %				Vapour Pressure (mms)						Evaporation(mms)		Rainfall (mms)		
		Total Actual	Total Possible monthly	%	Mean of day	1200 U.T.	Lowest	Date	Mean of day	1200 UT	Highest	Date	Lowest	Date	Piche	Pan class (A)	Total Amount monthly	Max. fall in one day	Date
El Kasr	472.4	265.5	375.8	71	68	62	9	12	10.7	11.6	17.5	14	3.9	10	6.8	9.26	1.2	1.1	22
Tahrir	526.6	294.3	387.6	76	69	45	24	14	11.6	12.2	17.4	15	6.8	3	8.4	8.18	3.8	3.7	23
Bahtim	579.1	290.9	387.0	75	70	36	—	—	10.4	9.6	—	—	—	—	7.7	7.50	2.6	2.5	23
Kharga	537.4	325.0	382.1	85	22	14	4	5	5.0	4.8	10.3	17	2.1	6	20.6	15.97	Tr.	Tr.	15

TABLE C. 4.—EXTREME SOIL TEMPERATURE AT DIFFERENT DEPTHS (cms) IN DIFFERENT FIELDS

APRIL — 1968

STATION	Highest (H) Lowest (L)	Extreme soil temperature (°C) in dry field at different depths (cms.)								Extreme soil temperature (°C) in grass field at different depths (cms.)							
		2	5	10	20	50	100	200	300	2	5	10	20	50	100	200	300
El Kasr	H	41.9	34.8	30.0	25.5	22.6	21.3	20.5	—	—	—	—	—	—	—	—	—
	L	12.9	11.3	12.5	16.4	18.3	18.7	19.4	—	—	—	—	—	—	—	—	—
Tahrir	H	53.8	46.4	38.4	32.3	27.3	24.7	22.7	22.2	—	—	—	—	—	—	—	—
	L	15.6	13.7	14.2	16.7	18.2	19.1	20.2	20.9	—	—	—	—	—	—	—	—
Giza	H	52.7	38.9	33.0	27.4	24.6	22.6	22.1	22.0	—	—	—	—	—	—	—	—
	L	15.0	14.1	16.5	18.6	19.0	19.7	21.1	21.7	—	—	—	—	—	—	—	—
Kharga	H	52.6	47.2	38.4	32.6	29.3	26.7	23.0	26.3	—	—	—	—	—	—	—	—
	L	12.0	14.5	18.9	22.0	23.7	23.8	25.0	26.1	—	—	—	—	—	—	—	—

TABLE C 5.—SURFACE WIND

APRIL — 1968

STATION	Wind Speed m/sec at 1½ metres			Days with surface wind speed at 10 metres							Max. Gust (knots) at 10 metres	
	Mean of the day	Night time mean	Day time mean	≥10 knots	≥15 knots	≥20 knots	≥25 knots	≥30 knots	≥35 knots	≥40 knots	value	Date
El Kasr . . .	3.8	3.0	4.5	—	—	—	—	—	—	—	—	—
Tahrir	2.4	1.8	3.2	29	19	2	0	0	0	0	28	23
Giza	2·2	1.4	3.0	25	13	2	0	0	0	0	33	22
Kharga	3.3	2.6	4.1	27	18	6	1	0	0	0	32	16

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THE ARAB REPUBLIC OF EGYPT

MONTHLY WEATHER REPORT

VOLUME 11 NUMBER 5

MAY, 1968

U.D.C. 551, 506.1 (62)

THE EGYPTIAN METEOROLOGICAL AUTHORITY
CAIRO

PUBLICATIONS OF THE METEOROLOGICAL AUTHORITY OF THE ARAB REPUBLIC OF EGYPT—CAIRO

In fulfilment of its duties, the Egyptian Meteorological Authority issues serveral reports and publications on weather, climatc and agro-meteorology. The principal publications are described on this page.

Orders for publications should be addressed to :

"Chairman of the Board of Directors, Meteor ological Authority, Kubri-el-Qubbeh — CAIRO".

THE DAILY WEATHER REPORT

This report is issued daily by the Meteorological Authority since the year 1901. It includes surface and upper air observations carried out by the relevant networks of the Republic at the principal hours of observations.

As from January 1968 this report was revised to include a condensed representative selection of surface and upper air observations besides the 1200 U.T. surface & 500 mb charts.

As from 1st January 1972, the Daily Weather Report will not be issued or distributed because it does not serve no longer any good purpose as it used to be in the past. The Meteorological Authority is ready to supply the recipients of the Report with any information used to be included in it, if they so desire.

THE MONTHLY WEATHER REPORT

First issued in 1909, the Monthly Weather Report served to give a brief summary of the weather conditions that prevailed over Egypt during the month, with a table showing the mean values for few meteorological elements and their deviations from the normal values. From 1954 to 1957 this report was in a rapid state of development and extension resulting into a voluminous report on January 1958 giving surface, upper air, and agro-meteorological data for Egypt.

As from January 1964, the Monthly Weather Report was pressed to give climatological data for a representative selection of synoptic stations.

THE AGRO-METEOROLOGICAL ABRIDGED MONTHLY REPORT

Gives a review of weather experienced in the agro-meteorological stations of Egypt as well as monthly values of certain elements.

THE ANNUAL REPORT

This report gives annual values and statistics for the various meteorological elements, together with a summary of the weather conditions that prevailed during all months of the year.

CLIMATOLOGICAL NORMALS FOR EGYPT

A voluminous edition was issued in March 1968 which brings normals and mean values up till 1960.

METEOROLOGICAL RESEARCH BULLETIN

First issued in January 1969 on a bi-annual basis. It includes research works carried out by members of staff of "The Meteorological Institute for Research and Training" and the Operational Divisions of the Meteorological Authority.

TECHNICAL NOTES

As from October 1970, the Meteorological Authority started to issue a new series of publications in the form of Technical Notes (non periodical) on subjects related to studies and applications of meteorology in different fields for the benefit of personnel working in these fields.

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THE EGYPTIAN METEOROLOGICAL AUTHORITY
CAIRO

CONTENTS

Note : For explanatory notes on the tables please refer to Volume 11, Number 1 (January 1968).

GENERAL SUMMARY OF WEATHER CONDITIONS

MAY 1968

Normal spring in general, local thunderstorms in the Red Sea district between 24th & 26th.

GENERAL DESCRIPTION OF WEATHER

During this month five variant heat waves prevailed ; tow of which were pronounced and prevailed round the periods (15th—18th) &(29th—31st), the other waves were rather light.

The month was rainless in general, but heavy rain fell over local places in Delta and scattered thunderstorms occurred over the Red Sea on the 24th & 25th.

Rising sand occurred during several days of the month over scattered localities in the Western Desert & Upper Egypt districts. Early morning mist & fog developed during few days over scattered parts in Delta & Cairo areas.

PRESSURE DISTRIBUTION

The most outstanding features of pressure distribution over the surface maps during this month were :

— The Atlantic anticyclone and its extension through West Europe & West Mediterranean.

— Deep low pressure systems moving eastwards through North Europe attached sometimes with secondaries through Central Europe.

— Moving anticyclones through Europe and their extensions through the Mediterranean.

— Thermal low pressure over Arabia & Sudan.

— Five shallow khamsin secondaries which developed over North Algiers on the 1st, 5th, 9th, 20th & 27th. All these secondaries moved slowly eastwards and filled up over Libya, except the fourth secondary which reached north of Egypt while filling and amalgamated with the extension of the Sudan trough on the 25th.

During this month, the barometric pressure in Egypt experienced five consecutive falls round the periods : (2nd—7th), (9th—12th), (16th—18th), (24th—26th) & (28th—31st).

The first and fifth pressure falls were due to the slight deepening and NW elongation of the thermal trough over North Arabia through East Mediterranean. The second pressure fall was caused by the elongation of Sudan trough through North Arabia. The third fall occurred due to the northward elongation of Sudan trough through East Mediterranean. The fourth pressure fall was caused by the extension of Sudan trough northwestwards towards the Balkans.

Apart from the above mentioned periods high pressure established over East Mediterranean and the barometric pressure in Egypt was above normal.

The most important features of pressure distribution over the upper air charts were :

— Two deep upper low pressure systems, one over North Atlantic and the other over North Urasia.

— Secondary lows (or troughs) through middle latitutdes between 30° & 45°N, traversing East Mediterranean and Egypt on the 4th, 15th, 20th & 29th.

— Upper high pressure belt over the subtropical latitudes south of latitude 30°N.

SURFACE WIND

The prevailing winds during this month blew from NE to NW directions and were generally light to moderate. Winds became fresh to strong during several days over scattered parts in the Mediterranean, Western Desert & Red Sea districts. On the other hand, calms were frequent most of night & early morning intervals in scattered places of the country.

Gales were reported over Kom Ombo & Aswan on the 7th and over Hurghada on the 25th.

TEMPERATURE

Maximum air temperature remained slightly above normal most of this month, apart from the period (19th—23rd) when it was slightly below normal. The deviation above normal was generally appreciable during the two pronounced heat waves which prevailed round the periods (16th—18th) & (29th—31st), and was slight to moderate during the other heat waves.

Maximum air temperature values ranged generally between 24°C & 34°C in the northern parts, between 32°C & 38°C in the central parts and between 37°C & 42°C in the southern parts.

The absolute maximum air temperature was 45.1 °C reported at Kena on the 18th.

Minimum air temerature was above normal most days of the month with slight to moderate deviation, and was slightly below normal during few days.

Minimum air temperature values ranged generally between 14°C & 20°C in the northern & central parts and between 20°C & 24°C in the southern parts.

The absolute minimum air temperature was 10.2°C reported at Damanhour on the 1st.

PRECIPITATION

This month was rainless in general, but heavy rain fell over local places in Delta on the 24th & 25th.

The highest daily rainfall was 21.6 mms reported at Benha on the 25th. which was also the highest monthly rainfall.

Cairo, February 197-

Chairman (M. F. TAHA)

Board of Directors

TABLE A 1.—MONTHLY VALUES OF THE ATMOSPHERIC PRESSURE, AIR TEMPERATURE, RELATIVE HUMIDITY, BRIGHT SUNSHINE DURATION & PICHE EVAPORATION

MAY — 1968

STATION	Atmospheric Pressure (mbs) M.S.L		Air Temperature °C								Relative Humidity %		Bright Sunshine Duration (Hours)			Piche Evaporation mms. Mean
			Maximum		Minimum			Dry Bulb		Wet Bulb						
	Mean	D.F Normal or Average	(A) Mean	D.F Normal or Average	(B) Mean	D.F Normal or Average	$\frac{A+B}{2}$	Mean	D.F Normal or Average	Mean	D.F Normal or Average	Mean	D.F Normal or Average	Total Actual	Total Possible	%	
Sallum	1013.9	0.0	28 0	+1.8	18.3	+1.8	23.2	23.0	+2.1	17.9	+1.7	58	— 1	—	—	—	7.5
Mersa Matruh (A)	1013.6	+0.1	26.4	+0 9	15 2	-0.7	20.8	21.1	+1.0	18.6	+2.3	78	+12	—	—	—	5.9
Alexandria (A)	1013.1	+0.2	28.0	+1.4	17.6	+1.1	22.8	22.5	+1.1	19.3	—1.6	72	+ 5	364.9	425.6	86	4.8
Port Said (A)	1011.9	- 0.0	27.9	+1.3	20.1	+1.0	23.8	—	—	—	—	—	—	344.1	425.6	81	6.3
El Arish	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ghazza	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tanta	1012.4	+0.3	33 5	+1.8	17 3	+1.9	24.9	24.2	+1.6	18.4	+2.0	54	+ 5	348.4	424.5	82	7.8
Cairo (A)	1011.2	—1.0	33.9	+1.6	18.3	+0.9	26.1	25.8	+1.2	17.9	+0.9	43	0	—	—	—	22.2
Fayoum	—	—	35.4	+1 7	17 8	+0.6	26.6	—	—	—	—	—	—	—	—	—	9.8
Minya (A)	1010.4	- 0.6	35.8	+0.9	17.2	+0.8	26.5	26.9	+1.2	17.6	+1.0	35	— 1	374.1	419 4	89	15.9
Asyout (A)	1009.1	—1.6	36.9	+0.8	19.8	+0.6	28.4	28.6	+1.0	17.3	+1.6	17	+ 5	—	—	—	20.8
Luxor (A)	1008.2	—0.6	39.3	+0.5	20.7	+0.6	27.6	30.6	+0.5	18.1	+0.7	14	+ 2	—	—	—	14.3
Aswan (A)	1007.5	—1.1	39.6	+1 5	22.4	+1.7	31.0	31.2	+1.2	16.2	+0.9	13	+ 1	—	—	—	24.8
Siwa	1011.4	—1 5	36.1	+1.9	17.5	+0.9	26.8	27.4	+1.8	16.8	+1.3	29	0	—	—	—	15.6
Bahariya	1011.6	—0 2	35.6	+1 2	19.2	+2.0	27.4	27.8	+2.3	16.8	+1.0	27	— 1	—	—	—	12.8
Farafra	1012.2	—0.6	35.9	+1.6	18.9	+2.1	27.4	27.8	+2.3	14.4	0.1	22	— 1	—	—	—	21.1
Dakhla	1010.5	+0 1	35 8	—1.1	19 1	—0.4	27.5	28.0	+1.4	15.5	+0.5	20	+ 2	—	—	—	21.9
Kharga	1009.2	—1.1	37.9	+0.2	22.1	+1.2	29.9	30.4	+2.0	15.7	0.0	18	— 4	374.5	414.1	90	26.4
Tor	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hurghada	1008.9	—0.4	31.1	+1.4	20.9	+0.5	26 0	26.6	+1.0	19.2	+1.2	47	+ 3	—	—	—	16.9
Quseir	1009.7	+0.6	29.9	—0.4	22.9	-0.1	26.4	26.7	0.0	20.1	+1.5	52	+ 8	—	—	—	13.3

Table A 2. MAXIMUM AND MINIMUM AIR TEMPERATURES

MAY — 1968

Station	Maximum Temperature °C									Grass Min. Temp.		Minimum Temperature °C							
	Highest	Date	Lowest	Date	No. of Days with Max-Temp.					Mean	Dev. From Normal	Highest	Date	Lowest	Date	No. of Days with Min. Temp.			
					>25	>30	>35	>40	>45							<10	<5	<0	<-5
Sallum	40.8	31	23.4	15	26	7	1	1	0	18.0	—	22.8	31	15.2	5	0	0	0	0
Mersa Matruh (A)	35.2	31	22.7	3	19	2	1	0	0	—	—	20.6	17	11.6	1	0	0	0	0
Alexandria (A)	34.9	17	25.0	26	30	4	0	0	0	—	—	21.0	30	13.2	9	0	0	0	0
Port Said (A)	33.0	18	23.4	1-3	25	2	0	0	0	19.9	—	23.4	30	17.4	1	0	0	0	0
El Arish	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ghazza	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tanta	36.8	15	29.5	20	31	28	7	0	0	—	—	19.6	28	11.5	1	0	0	0	0
Cairo (A)	39.5	17	30.3	20	31	30	8	0	0	—	—	23.1	17	13.8	1	0	0	0	0
Fayoum	43.6	17	30.9	20	31	31	17	1	0	15.8	—	20.8	18	14.7	1	0	0	0	0
Minya (A)	42.8	17	31.8	19	31	31	17	3	0	14.9	—	21.6	17	14.6	1-10	0	0	0	0
Assyout (A)	43.0	17	32.8	22	31	31	22	3	0	18.9	—	25.5	17	16.5	1	0	0	0	0
Luxor (A)	44.8	18	35.0	21	31	31	30	11	0	15.8	—	24.6	19	18.0	21,23	0	0	0	0
Aswan (A)	44.6	18	35.4	21	31	31	31	10	0	—	—	24.8	28	18.0	1	0	0	0	0
Siwa	43.2	17	30.6	18	31	31	18	3	0	15.9	—	22.1	27	12.5	4	0	0	0	0
Bahariya	43.9	17	32.0	2	31	31	15	2	0	15.6	—	25.9	17	15.1	3	0	0	0	0
Farafra	43.3	17	32.2	22	31	31	16	3	0	18.6	—	24.7	18	15.5	1	0	0	0	0
Dakhla	40.6	16	32.6	20	31	31	15	2	0	—	—	24.8	31	12.0	8	0	0	0	0
Kharga	44.4	18	34.0	21	31	31	27	7	0	19.7	—	27.2	29	17.6	24	0	0	0	0
Tor	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hurghada	36.5	17	27.7	24	31	23	2	0	0	18.8	—	24.3	29	18.1	26	0	0	0	0
Quseir	34.8	18	27.8	1	31	11	0	0	0	20.8	—	26.6	31	20.0	2	0	0	0	0

Table A 3.—SKY COVER AND RAINFALL

MAY — 1968

Station	Mean Sky Cover Oct					Rainfall mms										
	00 U.T.	06 U.T.	12 U.T.	18 U.T.	Daily Mean	Total Amount	Dev. From Normal	Max. Fall in one day		Number of Days With Amount of Rain						
								Amount	Date	< 0.1	≥ 0.1	≥ 1.0	≥ 5.0	≥ 10	≥ 25	≥ 50
Sallum	0.7	**2.0**	1.8	1.6	1.5	Tr.	— 3.3	Tr.	14	1	0	0	0	0	0	0
Mersa Matruh (A)	1.3	**2.9**	1.6	1.9	1.7	Tr.	— 2.5	Tr.	17	1	0	0	0	0	0	0
Alexandria (A)	2.6	2.3	2.1	2.4	2.2	0.0	— 2.0	0.0	—	0	0	0	0	0	0	0
Port Said (A)	—	1.5	1.3	—	—	0.0	— 3.0	0.0	—	0	0	0	0	0	0	0
El Arish	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ghazza	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tanta	0.0	1.4	1.9	0.6	1.0	3.6	— 0.1	3.6	25	1	1	1	0	0	0	0
Cairo (A)	0.8	2.1	2.0	1.4	1.5	0.0	— 0.7	0.0	—	0	0	0	0	0	0	0
Fayoum	—	0.5	1.4	1.0	—	0.0	— 1.3	0.0	—	0	0	0	0	0	0	0
Minya (A)	0.0	0.3	1.0	0.9	0.5	0.0	— 0.6	0.0	—	0	0	0	0	0	0	0
Assyout (A)	0.1	0.4	0.8	0.7	0.5	0.0	— Tr.	0.0	—	0	0	0	0	0	0	0
Luxor (A)	0.2	0.9	1.0	0.8	0.7	Tr.	— 0.4	Tr.	25	1	0	0	0	0	0	0
Aswan (A)	0.4	1.1	1.4	0.8	0.9	Tr.	0.0	Tr.	7	1	0	0	0	0	0	0
Siwa	0.4	1.0	1.0	0.8	0.8	0.0	— 1.8	0.0	—	0	0	0	0	0	0	0
Bahariya	0.4	0.5	1.4	1.1	0.8	Tr.	— 0.1	Tr.	25	1	0	0	0	0	0	0
Farafra	—	0.6	1.4	0.9	—	0.0	— 0.1	0.0	—	0	0	0	0	0	0	0
Dakhla	0	0.0	0.6	0.5	0.3	0.0	— 0.1	0.0	—	0	0	0	0	0	0	0
Kharga	0	0.2	0.7	0.4	0.4	0.0	— 0.3	0.0	—	0	0	0	0	0	0	0
Tor	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hurghada	1.6	0.7	1.6	1.4	1.1	0.3	— 0.1	0.2	24	2	2	0	0	0	0	0
Quseir	0.3	1.0	1.6	1.0	1.3	1.5	+ 1.5	1.5	24	1	1	1	0	0	0	0

Table A 4.— DAYS OF OCCURRENCE OF MISCELLANEOUS WEATHER PHENOMENA.

MAY — 1968

Station	Precipitation				Frost	Thunderstorm	Mist Vis ≥ 1000 metres	Fog Vis <1000 Metres	Haze Vis ≥1000 Metres	Thick Haze Vis <1000 Metres	Dust or Sandrising Vis ≥1000 Metres	Dust or Sandstorm Vis <1000 Metres	Gale	Clear Sky	Cloudy Sky
	Rain	Snow	Ice. Pellets	Hail											
Sallum	0	0	0	0	0	0	0	1	0	0	1	0	0	22	0
Mersa Matruh (A)	0	0	0	0	0	0	4	2	0	0	2	0	0	29	1
Alexandria (A)	0	0	0	0	0	0	6	5	1	0	0	0	0	25	0
Port Said (A)	0	0	0	0	0	0	1	0	0	0	—	0	0	—	—
El Arish	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ghazza	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tanta	1	0	0	0	0	0	7	3	0	0	0	0	0	26	0
Cairo (A)	0	0	0	0	0	0	4	4	5	0	3	0	0	19	0
Fayoum	0	0	0	0	0	0	0	0	0	0	0	0	0	—	—
Minya (A)	0	0	0	0	0	0	0	0	0	0	4	0	0	19	0
Assyout (A)	0	0	0	0	0	0	0	0	0	0	1	0	0	28	0
Luxor (A)	0	0	0	0	0	0	0	0	1	0	4	1	0	25	0
Aswan (A)	0	0	0	0	0	0	0	0	2	0	6	3	1	26	0
Siwa	0	0	0	0	0	0	0	0	0	0	1	0	0	24	0
Bahariya	0	0	0	0	0	0	0	0	0	0	1	0	0	25	0
Farafra	0	0	0	0	0	0	0	0	0	0	2	0	0	—	—
Dakhla	0	0	0	0	0	0	0	0	9	0	15	0	0	24	0
Kharga	0	0	0	0	0	0	0	0	0	0	4	3	0	31	0
Tor	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hurghada	2	0	0	0	0	1	0	0	0	0	3	0	1	24	0
Quseir	1	0	0	0	0	2	0	0	0	0	0	0	0	25	0

Table A 5.—NUMBER IN HOURS OF OCCURRENCES OF CONCURRENT SURFACE WIND SPEED AND DIRECTION RECORDED WITHIN SPECIFIED RANGES

MAY — 1968

STATION	calm (hours)	Variable (hours)	Unrecorded (hours)	Wind speed in knots	Number in hours of occurrences of wind blowing from the ranges of directions indicated												
					345 / 014	015 / 044	045 / 074	075 / 104	105 / 134	135 / 164	165 / 194	195 / 224	225 / 254	255 / 284	285 / 314	315 / 344	All directions
Sallum	38	0	0	1-10	43	130	98	93	55	8	8	1	8	40	78	56	618
				11-27	14	26	9	1	1	1	0	1	3	6	0	26	88
				28-47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**57**	**156**	**107**	**94**	**56**	**9**	**8**	**2**	**11**	**46**	**78**	**82**	**706**
Mersa Matruh (A)	28	2	0	1-10	85	62	27	22	22	31	21	13	17	89	79	62	533
				11-27	44	16	28	8	13	0	0	0	0	2	2	67	180
				28-47	0	0	0	0	1	0	0	0	0	0	0	0	1
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**129**	**78**	**55**	**30**	**36**	**31**	**24**	**13**	**17**	**91**	**81**	**129**	**714**
Alexandria (A)	4	0	9	1-10	109	52	28	22	8	5	6	9	5	17	42	174	477
				11-27	39	15	7	1	0	0	0	0	0	8	47	137	254
				28-47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**148**	**67**	**35**	**23**	**8**	**5**	**6**	**9**	**5**	**25**	**89**	**311**	**731**
Port Said (A)	2	1	2	1-10	319	69	24	12	6	12	4	9	14	32	29	89	619
				11-27	38	20	8	8	0	0	0	0	1	3	20	22	120
				28-47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**357**	**98**	**32**	**20**	**6**	**12**	**4**	**9**	**15**	**35**	**49**	**111**	**739**
Tanta	53	0	0	1-10	101	40	27	11	2	2	4	31	52	79	93	171	613
				11-27	20	7	3	0	0	0	0	0	0	6	11	31	78
				28-47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**121**	**47**	**30**	**11**	**2**	**2**	**4**	**31**	**52**	**85**	**104**	**202**	**691**
Cairo (A)	18	0	4	1-10	68	134	84	35	5	1	1	2	10	18	31	70	459
				11-27	74	109	32	7	0	0	1	2	1	4	11	22	263
				28-47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**142**	**243**	**116**	**42**	**5**	**1**	**2**	**4**	**11**	**22**	**42**	**92**	**722**
Fayoum	12	3	0	1-10	300	251	11	2	5	3	7	7	8	14	18	57	683
				11-27	16	27	0	0	0	0	0	0	0	0	0	3	46
				28-47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**316**	**278**	**11**	**2**	**5**	**3**	**7**	**7**	**8**	**14**	**18**	**60**	**729**
Minya (A)	22	6	0	1-10	325	66	7	2	1	13	18	8	3	5	5	46	499
				11-27	172	41	1	0	0	0	0	0	0	0	0	3	217
				28-47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**497**	**107**	**8**	**2**	**1**	**13**	**18**	**8**	**3**	**5**	**5**	**49**	**716**

Table A 5 (*contd.*) — NUMBER IN HOURS OF OCCURRENCES OF CONCURRENT SURFACE WIND SPEED AND DIRECTION RECORDED WITHIN SPECIFIED RANGES

MAY — 1968

Station	calm (hours)	variable (hours)	unrecorded (hours)	Wind speed in knots	Number in hours of occurrences of wind blowing from the ranges of direction indicated												
					345 / 014	015 / 044	045 / 074	075 / 104	105 / 134	135 / 164	165 / 194	195 / 224	225 / 254	255 / 284	285 / 314	315 / 344	
Assyout . . . . . (A)	0	1	0	1-10	50	18	11	11	19	5	4	7	6	89	179	144	543
				11-27	36	33	1	0	1	3	1	1	0	4	33	87	200
				28-47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥ 48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**86**	**51**	**12**	**11**	**20**	**8**	**5**	**8**	**6**	**93**	**212**	**231**	**743**
Luxor . . . . . (A)	0	1	0	1-10	129	83	27	29	13	27	75	19	39	91	115	71	718
				11-27	3	5	5	0	0	2	1	2	1	0	4	2	25
				28-47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥ 48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**132**	**88**	**32**	**29**	**13**	**29**	**76**	**21**	**40**	**91**	**119**	**73**	**743**
Aswan . . . . . (A)	2	6	0	1-10	210	69	32	12	4	10	8	2	10	28	57	197	639
				11-27	18	6	0	1	2	0	0	0	2	6	7	54	96
				28-47	0	0	0	0	0	0	0	1	0	0	0	0	1
				≥ 48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**228**	**75**	**32**	**13**	**6**	**10**	**8**	**2**	**12**	**34**	**64**	**251**	**736**
Siwa	14	11	0	1-10	26	102	121	101	67	30	11	7	23	56	94	46	644
				11-27	3	17	8	8	6	4	2	1	3	2	13	8	75
				28-47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥ 48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**29**	**119**	**129**	**109**	**73**	**34**	**13**	**8**	**26**	**58**	**67**	**54**	**719**
Dakhla	6	0	8	1-10	78	35	27	28	22	13	41	32	41	54	96	171	638
				11-27	18	26	18	1	0	0	0	0	0	0	1	28	92
				28-47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥ 48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**96**	**61**	**45**	**29**	**22**	**13**	**41**	**32**	**41**	**54**	**97**	**199**	**730**
Kharga	0	1	5	1-10	103	47	11	6	10	5	3	5	5	11	52	206	464
				11-27	129	19	0	0	0	0	0	0	0	0	6	120	274
				28-47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥ 48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**232**	**66**	**11**	**6**	**10**	**5**	**3**	**5**	**5**	**11**	**58**	**326**	**738**
Hurghada	9	0	2	1-10	20	41	24	8	13	22	11	3	6	15	48	49	260
				11-27	78	81	5	5	10	8	1	2	0	2	80	200	472
				28-47	0	0	0	0	0	0	0	0	0	0	0	1	1
				≥ 48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**98**	**122**	**29**	**13**	**23**	**30**	**12**	**5**	**6**	**17**	**128**	**250**	**733**
Quseir	10	3	10	1-10	45	14	12	28	16	11	12	13	40	87	101	95	474
				11-27	38	0	0	4	5	1	0	0	0	4	61	133	246
				28-47	0	0	0	0	0	0	0	0	0	0	0	1	1
				≥ 48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**83**	**14**	**12**	**32**	**21**	**12**	**12**	**13**	**40**	**91**	**162**	**229**	**731**

UPPER AIR DATA

Table B 1.—MONTHLY MEANS AND MONTHLY ABSOLUTE HIGHER & LOWER VALUES OF ALTITUDE, AIR TEMPERATURE & DEW POINT AT STANDARD AND SELECTED PRESSURE SURFACES.

MAY — 1968

Climatological upper air data for Mersa Matruh, Helwan & Aswan upper air stations at 0000 & 1200 U.T. are missing since number of days of release of radiosonde sets at these stations are less than the permissible number needed for calculating or processing monthly values.

Table B 2.—MEAN AND EXTREME VALUES OF THE FREEZING LEVEL AND THE TROPOPAUSE ; THE HIGHEST WIND SPEED IN THE UPPER AIR

MAY — 1968

Climatological upper air data for Mersa Matruh, Helwan & Aswan upper air stations at 0000 & 1200 U.T. are missing since number of days of release of radiosonde sets at these stations are less than the permissible number needed for calculating or processing monthly values.

Table B 3. -NUMBER OF OCCURRENCES OF WIND DIRECTION WITHIN SPECIFIED RANGES AND THE MEAN SCALAR WIND SPEED AT THE STANDARD AND SELECTED PRESSURE SURFACES

MAY — 1968

Climatological upper air data for Mersa Matruh, Helwan & Aswan upper air stations at 0000 & 1200 U.T. are missing since number of days of release of radiosonde sets at these stations are less than the permissible number needed for calculating or processing monthly values.

REVIEW OF AGRO-METEOROLOGICAL STATIONS

EL-KASR – MAY 1968

This month was slightly warmer than normal and rainless. The daily maximum air temperatures were above normal most days of the month. The month was characterized by a short heat wave on the 14th yielding the highest maximum air temperature for the month (31.0°C) and three warm spells during the periods (10th-12th), 25th & (29th-30th).

The extreme maximum soil tempartures were higher than the corresponding values of last May at all depths between 2 & 100 cms. and the differences ranged between 4.2°C at 2 cms. and 1.0°C at 100 cms. The extreme minimum soil tempratures were higher than the corresponding values of last May at all depths between 2 & 100 cms. apart from the 20 cms. depth where the value was slightly lower (0.7°C) ; the differences ranged between 1.8°C at 2 cms. & 0.1°C at both 10 th 100 cms.

The mean daily actual duration of bright sunshine was 0.2 hour more than the corresponding value of May 1967.

TAHRIR – MAY 1968

Compared with last May, this month was warmer and appreciably less rainy (total monthly rainfall was 0.3 mm. against 46.5 mms. for last May). The daily maximum air temperatures were above normal during the whole month apart from the period (19th-22nd) during which they were slightly below normal. The month was characterized by two heat waves during the periods : (9th-17th) and (25th-28th) and two warm spells on the 6th & 31st. The first heat wave was prolonged and yielded the highest maximum air temperature for the month (38.4°C) on the 17th and the highest minimum air temperature (21.6°C) on the 18th.

The extreme maximum soil temperatures were higher than the corresponding values of last May at all depths between 2 & 100 cms., and the differences ranged between 5.4°C at 2 cms. and 1.3°C at 100 cms. The extreme minimum soil temperatures were higher than the corresponding values of last May at all depths between 2 & 50 cms. with differences ranging between 3.4°C at 2 cms. & 0.7°C at 5 cms. At 100 cms. depth, the value was the same as last May.

The mean daily Pan evaporation was 0.47 mm. more than the corresponding value of May 1967. The total actual duration of bright sunshine was 26.3 hours more than the corresponding value of May 1967.

BAHTIM — MAY 1968

This month was warmer than last May and rainless (total monthly rainfall for last May was 57.7 mms.) The daily maximum air temperatures were above average most days of the month. The month was characterized by a warm spell on the 11th and two heat waves during the periods (15th-18th) and (27th-28th). The first heat wave yielded the highest maximum air temperature for the month (38.6°C) and the lowest mean daily relative humidity (42%) on the 17th.

The extreme maximum soil temperatures were higher than the corresponding values of last May at all depths between 2 & 100 cms., and the differences ranged between 8.0°C at 2 cms. depth and 1.8°C at 100 cms. depth. The extreme minimum soil temperatures were also higher than the corresponding values of last May at all depths between 2 & 100 cms., and the differences ranged between 2.8°C at 2 cms. & 0.8°C at 20 cms.

The mean daily Pan evaporation was 1.24 mms. more than the corresponding value of May 1967. The total actual duration of bright sunshine was 14.4 hours more than the corresponding value of May 1967.

KHARGA — MAY 1968

This month was slightly warmer than normal. The daily maximum air temperatures were above normal during the month apart from the period (19th—25th) during which they were below normal. The month was characterized by three heat waves during the periods : (10th—11th), (15th—18th) and (27—31st). The second heat wave was the most pronounced and yielded the highest maximum air temperature for the month (44.4°C) on the 18th.

The extreme maximum soil temperatures were higher than the corresponding values of last May at all depths between 2 & 100 cms. and the differences ranged between 0.4°C & 1.0°C. The extreme minimum soil temperatures were higher than the corresponding values of last May at depths between 2 & 20 cms. with differences ranging between 1.7°C at 2 cms. and 0.2°C at 20 cms. At 50 cms. depth the extreme minimum soil temperature was the same as last May, and at 100 cms. it was slightly lower (0.2°C).

The mean daily Pan evaporation was 1.76 mms. more than the corresponding value of May 1967. The total actual duration of bright sunshine was 17.4 hours more than the corresponding value of May 1967.

Note.—During this month recording charts of the mercury in steel hygrograph were not available at El Kasr, Tahrir and Bahtim centres. For these centres mean of the day of air temperature ; relative humidity and vapour pressure are calculated using the following equations :

mean of the day of air temperature
= [(0600 + 1200 + 1800) U.T. dry bulb thermometer readings + minimum air temperature] ÷ 4.

mean of the day of relative humidity
= (0600 + 1800) U.T. observation ÷ 2.

mean of the day of vapour pressure
= (0600 + 1200 + 1800) U.T. observations ÷ 3.

TABLE C 1.—AIR TEMPERATURE AT 1½ METRES ABOVE GROUND

MAY — 1968

STATION	Air Temperature (°C)					Mean Duration in hours of daily air temperature above the following values										
	Mean Max.	Mean Min.	Mean of the day	Night time mean	Day time mean	—5°C	0°C	5°C	10°C	15°C	20°C	25°C	30°C	35°C	40°C	45°
El Kasr	25.2	15.8	20.9	—	—	—	—	—	—	—	—	—	—	—	—	—
Tahrir	33.2	16.9	23.9	—	—	—	—	—	—	—	—	—	—	—	—	—
Bahtim.	33.5	14.4	23.3	—	—	—	—	—	—	—	—	—	—	—	—	—
Kharga	37.9	22.1	30.4	26.6	31.7	24.0	24.0	24.0	24.0	24.0	23.9	19.8	11.8	5.0	0.8	0.0

TABLE C 2.—EXTREME VALUES OF AIR TEMPERATURE AT 1½ METRES ABOVE GROUND, ABSOLUTE MINIMUM AIR TEMPERATURE AT 5cms ABOVE GROUND OVER DIFFERENT FIELDS

MAY — 1968

STATION	Max. Temp. at 1½ metres (°C)				Min. Temp. at 1½ metres (°C)				Min. Temp. at 5 cms. above (°C			
	Highest		Lowest		Highest		Lowest		Dry soil		Grass	
	Value	Date	Value	Date	Value	Date	Value	Date	Value	Date	Value	Dat
El Kasr	31.0	14	21.9	1	20.7	17	11.4	1	7.3	1	—	—
Tahrir	38.4	17	29.6	20	21.6	18	11.8	1	10.4	1	—	—
Bahtim.	38.6	17	29.6	19	18.3	28	10.4	2	7.6	2	—	—
Kharga	44.4	18	34.0	21	27.2	29	17.6	24	15.4	24	—	—

TABLE C 3.—(SOLAR + SKY) RADIATION, DURATION OF BRIGHT SUNSHINE, RELATIVE HUMIDITY, VAPOUR PRESSURE AT 1½ METRES, EVAPORATION & RAINFALL

MAY — 1968

STATION	Soar+Sky) Radiation gm. cal/cm²	Duration of Bright Sunshine (hours)			Relative Humidity %				Vapour pressure (mms)						Evaporation(mms)		Rainfall (mm	
		Total Actual monthly	Total Possible monthly	%	Mean of day	1200 U.T.	Lowest	Date	Mean of day	1200 UT	Highest	Date	Lowest	Date	Piche	Pan class A	Total Amount Monthly	Max. Fall in one day
El Kasr. . . .	550.6	328.3	426.4	92	83	74	17	31	16.3	16.8	19.9	14,28	10.7	1	3.9	—	0.0	0.0
Tahrir	598.2	349.3	424.7	82	73	44	30	8	15 5	15.3	21.0	26	10.8	8	9.9	10.22	0.3	0.3
Bahtim. . . .	647.1	335.4	423.6	79	63	30	19	15	12.4	10.8	17.3	26	7.0	8	12.3	10.78	0.0	0 0
Kharga. . . .	576.3	374.5	414.1	90	30	13	6	18	6.2	6.1	10.9	19	3.1	10	26.1	20.63	0.0	0.0

Table C 4.—EXTREME SOIL TEMPERATURE AT DIFFERENT DEPTHS (cms) IN DIFFERENT FIELDS

MAY — 1968

STATION	Highest (H) Lowest (L)	Extreme soil temperature (°C) in dry field at different depths (cms.)								Extreme soil temperature (°C) in grass field at different depths (cms.)							
		2	5	10	20	50	100	200	300	2	5	10	20	50	100	200	300
El Kasr . . .	H	43.9	39.5	33.6	28.0	25.8	23.7	21.9	—	—	—	—	—	—	—	—	—
	L	22.1	19.5	18.3	19.9	21.5	20.9	20.5	—	—	—	—	—	—	—	—	—
Tahrir . . .	H	54.0	47.4	41.0	35.3	30.5	28.4	25.7	24 2	—	—	—	—	—	—	—	—
	L	23.8	21.2	21.2	23.8	24.6	23.9	22.7	22.3	—	—	—	—	—	—	—	—
Bahtim . . .	H	53.3	42.6	36.7	31.1	28.6	25.8	23.5	22.6	—	—	—	—	—	—	—	—
	L	23.1	22.0	23.0	24.6	24.2	22.7	22.1	22.0	—	—	—	—	—	—	—	—
Kharga . . .	H	56.1	49.9	41.2	35.4	32.4	29.8	27.6	26 8	—	—	—	—	—	—	—	—
	L	19.6	22.6	6.4 2	28.2	28.2	26.8	26.0	26.2	—	—	—	—	—	—	—	—

Table C 5.—SURFACE WIND

MAY — 1968

STATION	Wind Speed m/sec at 1½ metres			Days with surface wind speed at 10 metres							Max. Gust (knots) at 10 metres	
	Mean of the day	Night time mean	Day time mean	≥10 knots	≥15 knots	≥20 knots	≥25 knots	≥30 knots	≥35 knots	≥40 knots	Value knots	Date
El Kasr . . .	3.3	2.2	4.5	—	—	—	—	—	—	—	—	—
Tahrir	2.5	1.7	3.4	31	24	2	0	0	0	0	29	18
Bahtim. . . .	2.6	1.6	3.6	31	26	4	0	0	0	0	29	9
Kharga . . .	4.0	3.4	4.6	31	26	8	0	0	0	0	36	29

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THE ARAB REPUBLIC OF EGYPT

MONTHLY WEATHER REPORT

VOLUME 11 NUMBER 6

JUNE, 1968

U.D.C. 551. 506.1 (62)

THE EGYPTIAN METEOROLOGICAL AUTHORITY
CAIRO

PUBLICATIONS OF THE METEOROLOGICAL AUTHORITY OF THE ARAB REPUBLIC OF EGYPT—CAIRO

In fulfilment of its duties, the Egyptian Meteorological Authority issues serveral reports and publications on weather, climate and agro-meteorology. The principal publications are described on this page.

Orders for publications should be addressed to :

"Chairman of the Board of Directors, Meteorological Authority, Kubri-el-Qubbeh — CAIRO".

THE DAILY WEATHER REPORT

This report is issued daily by the Meteorological Authority since the year 1901. It includes surface and upper air observations carried out by the relevant networks of the Republic at the principal hours of observations.

As from January 1968 this report was revised to include a condensed representative selection of surface and upper air observations besides the 1200 U.T. surface & 500 mb charts.

As from 1st January 1972, the Daily Weather Report will not be issued or distributed because it does not serve no longer any good purpose as it used to be in the past. The Meteorological Authority is ready to supply the recipients of the Report with any information used to be included in it, if they so desire.

THE MONTHLY WEATHER REPORT

First issued in 1909, the Monthly Weather Report served to give a brief summary of the weather conditions that prevailed over Egypt during the month, with a table showing the mean values for few meteorological elements and their deviations from the normal values. From 1954 to 1957 this report was in a rapid state of development and extension resulting into a voluminous report on January 1958 giving surface, upper air, and agro-meteorological data for Egypt.

As from January 1964, the Monthly Weather Report was pressed to give climatological data for a representative selection of synoptic stations.

THE AGRO-METEOROLOGICAL ABRIDGED MONTHLY REPORT

Gives a review of weather experienced in the agro-meteorological stations of Egypt as well as monthly values of certain elements.

THE ANNUAL REPORT

This report gives annual values and statistics for the various meteorological elements, together with a summary of the weather conditions that prevailed during all months of the year.

CLIMATOLOGICAL NORMALS FOR EGYPT

A voluminous edition was issued in March 1968 which brings normals and mean values up till 1960.

METEOROLOGICAL RESEARCH BULLETIN

First issued in January 1969 on a bi-annual basis. It includes research works carried out by members of staff of "The Meteorological Institute for Research and Training" and the Operational Divisions of the Meteorological Authority.

TECHNICAL NOTES

As from October 1970, the Meteorological Authority started to issue a new series of publications in the form of Technical Notes (non periodical) on subjects related to studies and applications of meteorology in different fields for the benefit of personnel working in these fields.

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THE EGYPTIAN METEOROLOGICAL AUTHORITY
CAIRO

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Note For explanatory notes on tables please refer to Volume 11, Number 1 (January 1968).

GENERAL SUMMARY OF WEATHER CONDITIONS

JUNE — 1963

Changeable intervened with six heat waves. A record for daily rain at Sallum on the 7th.

GENERAL DESCRIPTION OF WEATHER

This month was characterized by six heat waves which were separated by short periods of mild summer weather. The heat waves were generally of short duration and moderate intensity with their peaks round the 4th, 9th, 15th, 20th, 23rd & 26th.

Rain was reported locally over Sallum on the 6th & 7th. The daily rain on the 7th at Sallum was (7.4 mms), a record for Sallum during June. Weather was sandy for many days in the western Mediterranean & Upper Egypt & Western Desert districts.

PRESSURE DISTRIBUTION

The most important pressure systems over the surface maps during this month were :

— The Atlantic anticyclone and its extension through West Europe & the Mediterranean.

— Deep low pressure systems through North Europe, associated sometimes with secondaries through middle latitudes.

— Moving anticyclones through Europe, and their extension southwards to the Mediterranean.

— Monsoon low pressure troughs over Sudan and the Arabian Gulf.

— Four shallow khamsin secondaries, two of which filled up near the Gulf of Serte on the 3rd & 7th, and the other two secondaries passed through East Mediterranean on the 20th & 23rd.

During this month, the barometric pressure in Egypt experienced six consecutive falls round the periods : (2nd-4th), (7th-9th), (13th—15th), (17th—20th), (21st—23rd) & (28th-30th).

The pressure falls during the first three periods were due to the northward elongation of the Sudan monsoon trough. The pressure falls during the fourth and fifth periods were due to the northeastward transit of two shallow khamsin secondaries through East Mediterranean. The last pressure fall was due to the westward elongation of the Iraq monsoon trough through East Mediterranean.

During the rest periods of the month, the barometric pressure in Egypt was above normal and high pressure established over East Mediterranean & NE Africa.

The most important pressure systems over the 700 & 500 m.b. upper air charts were :

— Upper low pressure systems over North Atlantic and North Urasia.

— Secondary upper lows (or troughs) through middle latitudes, traversing East Mediterranean on the 6th & 22nd.

—Upper high pressure system south of latitude 30°N.

SURFACE WIND

The most prevailing surface winds during this month were generally light to moderate, and blew from NE to NW directions. Surface winds became fresh to strong during many days of the month over scattered parts mainly in the Mediterranean (the western part), Western Desert, Red Sea districts. Calms were frequent most of night and early morning intervals in scattered localities.

TEMPERATURE

Maximum air temperature was much changeable during this month. It showed moderate to large departures above normal during the heat waves which prevailed most days of the month, and slight departures below normal during the mild periods. Maximum air temperature values ranged generally between 28°C & 35°C in the northern parts, between 33°C & 40°C in the central parts and between 40°C & 44°C in the southern parts.

The absolute maximum air temperature was 46.4°C reported at Kom Ombo on the 9th.

Minimum air temperature was similarly changeable as maximum air temperature but to a less extent. It was in general moderately above normal during the heat waves, and slightly below normal during the mild periods. Minimum air temperature values ranged most days of the month between 17°C & 23°C in the northern and central parts, and between 22°C & 27°C in the southern parts.

The absolute minimum air temperature was 14.8°C reported at Shebin El Kom on the 17th.

PRECIPITATION

No measurable rain was reported during this month all over the Republic, except at Sallum on the 6th & 7th. On the 7th (7.4 mms) fell over Sallum which is regarded as a record during June.

The highest daily rainfall amount was 7.4 mms reported at Sallum on the 7th.

The highest monthly rainfall amount was 8.7 mms reported at Sallum.

Chairman (M. F. TAHA)

Board of Directors

Cairo, March 1972

SURFACE DATA

Table A 1.—MONTHLY VALUES OF THE ATMOSPHERIC PRESSURE, AIR TEMPERATURE, RELATIVE HUMIDITY, BRIGHT SUNSHINE DURATION & PICHE EVAPORATION

JUNE — 1968

STATION	Atmospheric Pressure (mbs) M.S.L		Air Temperature °C								Relative Humidity %		Bright Sunshine Duration (Hours)			Piche Evaporation mms. Mean
			Maximum		Minimum			Dry Bulb		Wet Bulb						
	Mean	D.F. Normal or Average	(A) Mean	D.F. Normal or Average	(B) Mean	D.F. Normal or Average	$\frac{A+B}{2}$	Mean	D.F Normal or Average	Mean	D.F Normal or Average	Mean	D.F Normal or Average	Total Actual	Total Possible	%	
Sallum	1012.7	0.0	31.2	+1.7	21.7	+1.9	26.5	26.3	+1.6	20.9	+1.2	59	— 2	—	—	—	9.0
Mersa Matruh (A)	1012.5	—0.1	30.4	+2.4	20.7	+2.5	25.6	25.2	+1.9	21.4	+1.8	70	+ 1	—	—	—	8.9
Alexandria (A)	1012.5	+0.8	31.9	+3.5	21.4	+1.2	26.6	25.9	+1.7	21.5	+1.0	66	— 5	357.6	424.1	84	7.8
Port Said (A)	1011.3	+0.4	29.4	+0.9	23.3	+0.9	26.3	—	—	—	—	—	—	361.4	424.1	85	7.1
El Arish	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ghazza	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tanta	1011.7	—0.1	35.2	+1.2	19.6	+2.2	27.4	26.9	+1.0	20.8	+1.2	59	+ 6	361.3	422.4	86	8.6
Cairo (A)	1011.0	+0.2	36.1	+1.4	21.7	+1.6	28.9	28.2	+1.0	19.8	+0.2	42	— 4	—	—	—	24.4
Fayoum	—	—	37.7	+1.7	20.7	+0.8	29.2	—	—	—	—	—	—	—	—	—	10.6
Minya (A)	1009.7	0.0	38.5	+2.1	20.5	+1.5	29.5	29.8	+2.0	20.0	+1.0	36	— 4	361.6	416.1	87	18.5
Assyout (A)	1008.8	—0.1	40.1	+2.4	22.8	+1.2	31.4	31.4	+1.4	19.7	+1.6	29	+ 3	—	—	—	24.4
Luxor (A)	1007.2	+0.5	43.0	+2.0	24.1	+1.5	33.5	33.8	+1.2	20.0	+0.7	23	0	—	—	—	15.9
Aswan (A)	1006.5	+0.4	42.7	+0.5	25.8	+1.6	34.2	34.6	+0.7	17.7	+0.2	13	+ 1	—	—	—	30.5
Siwa	1010.8	—1.0	39.1	+1.8	21.7	+2.3	30.4	30.4	+1.1	19.4	+1.1	31	+ 1	—	—	—	18.3
Bahariya	1011.1	+1.2	38.4	+1.9	22.7	+3.2	30.5	30.8	+1.6	19.1	+0.7	18	— 2	—	—	—	14.5
Farafra	1011.5	0.0	39.3	+1.6	22.4	+2.2	30.8	30.9	+0.4	16.9	0.0	13	+ 1	—	—	—	23.4
Dakhla	1009.8	+1.6	39.9	+1.4	24.1	+1.6	32.0	32.5	+1.4	18.4	+1.2	19	+ 1	—	—	—	26.4
Kharga	1008.5	+0.7	41.4	+2.2	26.4	+3.2	33.9	34.1	+1.6	18.4	+0.4	20	0	360.0	409.8	88	31.4
Tor	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hurghada	1007.6	+0.8	34.4	+2.5	24.4	+0.8	29.4	29.8	+1.2	20.8	+0.4	41	— 3	—	—	—	23.3
Quseir	1008.4	+1.3	33.1	+0.7	26.7	+1.2	29.9	29.8	+0.6	21.8	+1.0	46	+ 2	—	—	—	21.4

TABLE A 2.— MAXIMUM AND MINIMUM AIR TEMPERATURES

JUNE — 1968

STATION	Maximum Temperature °C									Grass Min. Temp.		Minimum Temperature °C							
	Highest	Date	Lowest	Date	No. of Days with Max-Temp.					Mean	D. From Normal	Highest	Date	Lowest	Date	No. of Days with Min. Temp.			
					>25	>30	>35	>40	>45							<10	< 5	< 0	<— 5
Sallum	41.6	12	25.4	13	30	18	4	2	0	21.7	—	25.4	13	19.2	6,11	0	0	0	0
Mersa Matruh. . . (A)	40.2	19	26.7	5	30	10	3	1	0	—	—	23.6	23	17.1	11	0	0	0	0
Alexandria . . . (A)	38.7	1	28.4	11	30	20	5	0	0	21.4	—	24.0	24	18.0	12	0	0	0	0
Port Said . . . . (A)	32.7	15	27.5	12	30	6	0	0	0	22.7	—	24.6	22	21.8	18	0	0	0	0
El Arish	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0	0	0	0
Ghazza	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0	0	0	0
Tanta..	41.6	4	31.4	27	30	30	16	2	0	—	—	21.2	10	18.0	12,13,17	0	0	0	0
Cairo. . . . . (A)	41.5	4	31.0	10	30	30	18	4	0	—	—	24.4	20	19.4	18	0	0	0	0
Fayoum	42.8	3	32.7	10	30	30	26	6	0	18.6	—	23.8	3	16.6	17	0	0	0	0
Minya . . . (A)	44.2	3	33.4	17	30	30	26	8	0	17.9	—	23.6	9	17.8	18	0	0	0	0
Assyout . . . . (A)	45.0	3	34.0	28	30	30	28	16	0	21.8	—	25.5	9,20	20.0	18	0	0	0	0
Luxor . . . . . (A)	45.7	4	37.6	29	30	30	30	27	1	20.2	—	26.8	10	19.6	18	0	0	0	0
Aswan . . . . . (A)	45.7	8	38.5	17	30	30	30	26	2	—	—	29.8	11	22.6	30	0	0	0	0
Siwa	43.9	3	34.2	8	30	30	27	13	0	20,5	—	26.9	2	18.8	18	0	0	0	0
Bahariya	44.0	3	33.5	10	30	30	27	10	0	20.7	—	27.1	3	20.3	12,17	0	0	0	0
Farafra	44.1	3	32.0	10	30	30	28	14	0	22.8	—	25.9	4	19.0	11	0	0	0	0
Dakhla	44.6	3	35.0	17	30	30	28	18	0	—	—	28.7	23	17.6	18	0	0	0	0
Kharga	45.6	3	36.2	29	30	30	30	21	2	24.6	—	30.2	9	22.8	4	0	0	0	0
Tor	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0	0	0	0
Hurghada	38.1	9	31.7	18	30	30	10	0	0	22.7	—	27.0	10	22.2	5	0	0	0	0
Quseir	38.0	16	30.4	29	30	30	4	0	0	25.2	—	29.4	10	24.5	5	0	0	0	0

TABLE A 3.—SKY COVER AND RAINFALL

JUNE — 1968

Station	Mean Sky Cover (Oct)					Rainfall (mms)									
	00 U.T.	06 U.T.	12 U.T.	18 U T	Daily Mean	Total Amount	Dev. From Normal	Max. Fall in one day		Number of days with Amount of Rain					
								Amount	Dte	<0.1	≥0.1	≥1.0	≥5.0	≥10	≥25	≥50
Sallum (A)	0.9	1.3	1.7	1.8	1.4	8.7	+ 8.6	7.4	7	0	2	2	1	0	0	●
Mersa Matruh (A)	0.8	2.5	2.1	2.0	1.7	0.0	— Tr.	0.0	—	0	0	0	0	0	0	●
Alexandria (A)	2.8	2.4	2.1	2.4	2.3	0.0	— Tr.	0.0	—	0	0	0	0	0	0	●
Port Said (A)	—	1.1	1.1	—	—	0.0	— Tr.	0.0	—	0	0	0	0	0	0	●
El Arish	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ghazza	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tanta	0.4	1.6	1.3	0.6	0.9	0.0	— Tr.	0.0	—	0	0	0	0	0	0	●
Cairo (A)	1.5	1.8	1.2	1.5	1.1	0.0	— 0.2	0.0	—	0	0	0	0	0	0	●
Fayoum	—	1.5	1.1	1.0	—	Tr.	+ Tr.	Tr.	7,10	2	0	0	0	0	0	●
Minya (A)	0.6	0.9	1.0	1.2	0.9	0.0	— Tr.	0.0	—	0	0	0	0	0	0	●
Assyout (A)	0.4	0.7	0.8	0.9	0.6	0.0	— Tr.	0.0	—	0	0	0	0	0	0	●
Luxor (A)	0.7	1.1	1.1	1.0	1.0	0.0	0.0	0.0	—	0	0	0	0	0	0	●
Aswan (A)	0.1	1.2	0.8	0.7	0.7	0.0	0.0	0.0	—	0	0	0	0	0	0	●
Siwa	0.6	1.4	1.4	1.2	1.1	Tr.	+ Tr.	Tr.	6	1	0	0	0	0	0	0
Bahariya	0.8	1.1	1.4	1.2	1.1	Tr.	— 0.2	Tr.	7,9,10	3	0	0	0	0	0	●
Farafra	—	0.9	1.4	1.1	—	0.0	0.0	0.0	—	0	0	0	0	0	0	0
Dakhla	0.0	0.2	0.3	0.3	0.3	0.0	— Tr.	0.0	—	0	0	0	0	0	0	0
Kharga	0.4	0.6	0.8	0.6	0.6	0.0	— Tr.	0.0	—	0	0	0	0	0	0	0
Tor	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hurghada	0.9	0.8	1.0	1.2	1.0	0.0	0.0	0.0	—	0	0	0	0	0	0	0
Quseir	0.1	1.1	0.7	0.6	0.6	0.0	— Tr.	0.0	—	0	0	0	0	0	0	0

TABLE A 4– DAYS OF OCCURRENCE OF MISCELLANEOUS WEATHER PHENOMENA

JUNE — 1968

Station	Precipiation				Frost	Thunderstorm	Mist Vis ≥1000 metres	Fog Vis <1000 Metres	Haze Vis ≥1000 Metres	Thick Haze Vis <1000 Metres	Dust or Sandrising Vis ≥1000 Metres	Dust or Sandstorm Vis <1000 Metres	Gale	Clear Sky	Cloudy Sky
	Rain	Snow	Ice Pellets	Hail											
Sallum	2	0	0	0	0	0	0	0	0	0	4	0	0	22	0
Mersa Matruh (A)	0	0	0	0	0	0	0	0	0	0	8	0	0	18	0
Alexandria (A)	0	0	0	0	0	0	2	1	0	0	0	0	0	17	1
Port Said (A)	0	0	0	0	0	0	0	0	0	0	—	0	0	—	—
El Arish	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ghazza	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tanta	0	0	0	0	0	0	0	0	0	0	0	0	0	25	0
Cairo	0	0	0	0	0	0	3	0	3	0	3	0	0	20	0
Fayoum	0	0	0	0	0	0	0	0	0	0	0	0	0	—	—
Minya (A)	0	0	0	0	0	0	0	0	0	0	—	0	0	24	0
Assyout (A)	0	0	0	0	0	0	0	0	1	0	3	0	0	24	0
Luxor (A)	0	0	0	0	0	0	0	0	4	0	4	0	0	27	0
Aswan (A)	0	0	0	0	0	0	0	0	0	0	8	1	0	28	0
Siwa	0	0	0	0	0	0	0	0	0	0	1	0	0	23	0
Bahariya	0	0	0	0	0	0	0	0	0	0	0	0	0	24	0
Farafra	0	0	0	0	0	0	0	0	3	0	6	0	0	—	—
Dakhla	0	0	0	0	0	0	0	0	14	0	23	0	0	24	0
Kharga	0	0	0	0	0	0	0	0	0	0	12	0	0	24	0
Tor	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hurghada	0	0	0	0	0	0	0	0	0	0	7	0	0	24	1
Quseir	0	0	0	0	0	0	0	0	0	0	0	0	0	25	0

Table A 5.—NUMBER IN HOURS OF OCCURRENCES OF CONCURRENT SURFACE WIND SPEED AND DIRECTION RECORDED WITHIN SPECIFIED RANGES

JUNE — 1968

Station	calm (hours)	Variable (hours)	Unrecorded (hours)	Wind speed in knots	Number in hours of occurrences of wind blowing from the ranges of directions indicated												
					345 / 014	015 / 044	045 / 074	075 / 104	105 / 134	135 / 164	165 / 194	195 / 224	225 / 254	255 / 284	285 / 314	315 / 344	All directions
allum	24	2	0	1-10	38	104	76	77	34	7	10	5	12	22	47	66	498
				11-27	11	45	5	0	1	5	6	7	7	6	39	64	196
				28-47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**49**	**149**	**81**	**77**	**35**	**12**	**16**	**12**	**19**	**28**	**86**	**130**	**694**
leras Matruh (A)	2	0	0	1-10	58	74	31	17	29	20	9	16	15	37	37	75	418
				11-27	40	29	12	18	31	30	9	14	6	2	15	94	300
				28-47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**98**	**103**	**43**	**35**	**60**	**50**	**18**	**30**	**21**	**39**	**52**	**169**	**718**
lexandria (A)	1	0	0	1-10	36	31	29	54	36	7	17	5	7	31	101	124	478
				11-27	28	31	8	1	0	0	0	0	1	11	98	63	241
				28-47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**64**	**62**	**37**	**55**	**36**	**7**	**17**	**5**	**8**	**42**	**199**	**187**	**719**
ort Said (A)	0	0	0	1-10	157	61	41	14	7	5	6	11	23	57	56	178	616
				11-27	17	13	3	0	0	0	0	0	0	6	31	34	104
				28-47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**174**	**74**	**44**	**14**	**7**	**5**	**6**	**11**	**23**	**63**	**87**	**212**	**720**
anta	40	0	119	1-10	36	33	54	19	0	7	9	42	49	63	94	80	506
				11-27	2	19	4	0	0	0	0	0	1	3	15	11	55
				28-47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**38**	**72**	**58**	**19**	**0**	**7**	**9**	**42**	**50**	**66**	**109**	**91**	**561**
airo	14	0	2	1-10	79	87	60	25	6	6	2	11	6	15	37	92	426
				11-27	64	59	48	30	1	0	0	1	1	9	12	53	278
				28-47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**143**	**146**	**108**	**55**	**7**	**6**	**2**	**12**	**7**	**24**	**49**	**145**	**704**
Fayoum	17	0	2	1-10	279	236	10	3	2	1	1	2	23	17	19	59	652
				11-27	3	38	3	0	0	0	0	0	1	1	0	3	49
				28-47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**282**	**274**	**13**	**3**	**2**	**1**	**1**	**2**	**24**	**18**	**19**	**62**	**701**
Minya	15	3	0	1-10	457	30	2	1	1	1	0	1	8	12	20	33	466
				11-27	222	4	6	0	0	0	0	0	0	0	2	2	236
				28-47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All Speeds	**679**	**34**	**8**	**1**	**1**	**1**	**0**	**1**	**8**	**12**	**22**	**35**	**702**

Table A 5 (*contd.*)—NUMBER IN HOURS OF OCCURRENCE OF CONCURRENT SURFACE WIND SPEED AND DIRECTION RECORDED WITHIN SPECIFIED RANGES

JUNE — 1968

Station	calm (hours)	Variable (hours)	Unrecorded (hours)	Wind speed in knots	Number in hours of occurrences of wind blowing from the ranges of directions indicated												All directions
					345 / 014	015 / 044	045 / 074	075 / 104	105 / 134	135 / 164	165 / 194	195 / 224	225 / 254	255 / 284	285 / 314	315 / 344	
Assyout . . . . (A)	4	0	22	1-10	50	14	5	2	3	3	3	3	1	81	170	121	456
				11-27	94	11	5	2	0	0	0	0	0	0	17	109	238
				28-47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**144**	**25**	**10**	**4**	**3**	**3**	**3**	**3**	**1**	**81**	**187**	**230**	**694**
Luxor . . . . . (A)	2	0	2	1-10	106	73	24	33	15	22	50	27	27	75	133	119	701
				11-27	5	0	1	0	0	0	0	0	0	0	7	2	15
				28-47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**111**	**73**	**25**	**33**	**15**	**22**	**50**	**27**	**27**	**75**	**140**	**118**	**716**
Aswan . . . . . (A)	1	0	0	1-10	226	73	11	9	8	3	2	5	5	28	45	143	556
				11-27	89	3	0	0	0	0	0	0	0	0	11	59	163
				28-47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**315**	**76**	**11**	**9**	**8**	**3**	**2**	**5**	**5**	**28**	**56**	**202**	**719**
Siwa	16	0	0	1-10	44	87	64	58	51	40	13	12	15	42	68	96	590
				11-27	11	16	0	1	19	7	1	3	1	8	14	33	114
				28-47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**55**	**103**	**64**	**59**	**70**	**47**	**14**	**15**	**16**	**50**	**82**	**129**	**704**
Dakhla	2	0	6	1-10	77	44	26	25	20	14	27	36	16	33	83	122	523
				11-27	60	35	14	1	0	0	0	0	0	0	5	80	195
				28-47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**137**	**79**	**40**	**26**	**20**	**14**	**27**	**36**	**16**	**33**	**88**	**202**	**718**
Kharga	0	0	0	1-10	61	34	6	0	1	0	2	1	2	1	26	91	225
				11-27	312	8	0	0	0	0	0	0	0	0	2	173	495
				28-47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**373**	**42**	**6**	**0**	**1**	**0**	**2**	**1**	**2**	**1**	**28**	**264**	**720**
Hurghada	0	0	13	1-10	15	41	15	7	7	10	3	0	1	3	35	58	195
				11-27	124	54	0	0	0	3	0	0	0	0	81	237	499
				28-47	0	0	0	0	0	0	0	0	0	0	1	12	13
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**139**	**95**	**15**	**7**	**7**	**13**	**3**	**0**	**1**	**3**	**117**	**307**	**707**
Quseir	1	0	516	1-10	29	8	2	5	12	11	3	2	1	9	31	28	141
				11-27	4	0	0	0	0	0	0	0	0	0	13	45	62
				28-47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**33**	**8**	**2**	**5**	**12**	**11**	**3**	**2**	**1**	**9**	**44**	**73**	**203**

UPPER AIR CLIMATOLOGICAL DATA

Table B 1.— MONTHLY MEANS, ABSOLUTE HIGHER AND LOWER VALUES OF ALTITUDE, AIR TEMPERATURE AND DEW POINT AT STANDARD AND SELECTED PRESSURE SURFACES

JUNE — 1968

Station	Pressure Surface Millibar	Altitude of Pressure Surface (gpm)				Temperature (°C)				Dew Point (°C)	
		N	Mean	Highest	Lowest	N	Mean	Highest	Lowest	N	Mean
Mersa Matruh 0000 U.T.	Surface	21	*1013mb	*1016mb	*1007mb	21	22.6	27.7	19.0	21	18.5
	1000	20	135	165	90	20	22.8	32.0	19.8	20	18.5
	850	20	1543	1584	1511	20	18.3	26.2	11.9	18	8.1
	700	20	3177	3236	3135	20	8.2	12.5	4.4	11	— 1.6
	600	19	4433	4489	4384	19	— 0.2	3.5	— 5.3	7	— 6.6
	500	18	5868	5925	5800	18	— 9.6	— 6.5	—12.1	5	—18.9
	400	17	7554	7625	7470	17	—21.2	—17.0	—24.4	4	—28.9
	300	14	9619	9698	9510	14	—36.4	—29.9	—39.9	2	—44.7
	250	12	10870	10956	10740	12	—44.4	—38.5	—50.7	—	—
	200	12	12334	12453	12187	12	—53.4	—49.5	—60.6	—	—
	150	7	14158	14294	13994	7	—62.9	—60.3	—67.1	—	—
	100	3	16585	16725	16413	3	—70.6	—68.0	—72.6	—	—
	70	2	18795	18810	18780	2	—68.2	—66.7	—69.7	—	—
	60	2	19732	19759	19706	2	—62.0	—61.0	—63.1	—	—
	50	2	20874	20891	20857	2	—57.6	—55.9	—59.3	—	—
	40	2	22246	22287	22206	2	—53.8	—53.0	—54.6	—	—
	30	2	24140	24164	24076	2	—48.4	—48.1	—48.7	—	—
	20	1	26776	—	—	1	—46.2	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—
Helwan 0000 U.T.	Surface	29	*998 mb	*999mb	*991mb	29	24.1	29.7	21.0	29	15.1
	1000	29	95	131	57	—	—	—	—	—	—
	850	29	1512	1558	1480	29	20.2	24.1	14.7	28	1.8
	700	29	3170	3221	3130	29	10.6	14.1	6.3	28	— 9.3
	600	29	4424	4461	4390	29	2.2	6.0	— 1.4	27	—17.3
	500	29	5871	5907	5824	29	— 7.7	— 2.9	—11.0	27	—25.9
	400	27	7570	7641	7497	27	—19.9	—13.7	—24.0	26	—34.8
	300	27	9642	9753	9528	27	—34.4	—28.6	—40.3	26	—47.0
	250	27	10858	11023	10750	27	—43.2	—38.4	—49.7	25	—54.8
	200	27	12368	12515	12180	27	—52.8	—42.5	—59.3	23	—62.8
	150	27	14183	14339	13973	27	—62.5	—54.3	—69.4	—	—
	100	27	16624	16789	16435	27	—71.5	—65.5	—78.3	—	—
	70	21	18760	18940	18590	21	—67.0	—63.5	—72.5	—	—
	60	20	19710	19946	19541	20	—62.4	—58.5	—65.2	—	—
	50	19	20840	21002	20682	19	—58.4	—54.9	—62.0	—	—
	40	18	22246	22417	22084	18	—55.5	—51.7	—58.4	—	—
	30	16	24099	24264	23943	16	—52.4	—50.0	—57.7	—	—
	20	10	26729	26897	26571	10	—47.2	—44.4	—50.1	—	—
	10	—	—	—	—	—	—	—	—	—	—
Aswan 0000 U.T.	Surface	23	*984mb	*987mb	*982mb	23	29.4	33.0	26.2	23	5.7
	000	23	52	80	33	—	—	—	—	—	—
	850	23	1498	1521	1473	23	25.8	28.9	20.1	23	0.3
	700	23	3168	3200	3135	23	13.0	15.3	10.4	21	— 9.0
	600	23	4441	4486	4410	23	3.8	7.9	0.0	21	—15.9
	500	23	5898	5954	5850	23	— 5.5	— 2.2	—11.8	20	—25.0
	400	22	7615	7690	7532	22	—16.7	—13.4	—21.3	20	—35.4
	300	21	9712	9817	9593	21	—31.7	—27.6	—37.7	16	—47.4
	250	19	10976	11103	10814	19	—40.4	—36.2	—45.6	7	—53.2
	200	19	12465	12613	12311	19	—51.0	—48.5	—54.1	1	—64.2
	150	17	14285	14447	14125	17	—64.5	—62.7	—66.5	—	—
	100	17	16677	16857	16521	17	—77.3	—72.6	—79.8	—	—
	70	13	18769	18930	18680	13	—69.4	—66.5	—76.0	—	—
	60	10	19702	19855	19609	10	—64.6	—62.3	—66.8	—	—
	50	8	20838	20987	20738	8	—59.6	—55.8	—61.1	—	—
	40	6	22231	22306	22139	6	—56.0	—54.6	—57.5	—	—
	30	4	24056	24167	23980	4	—52.8	—50.1	—54.7	—	—
	20	2	26737	26832	26642	2	—46.8	—45.6	—47.9	—	—
	10	—	—	—	—	—	—	—	—	—	—

N — Number of observations of specified pressure surface.

* The atmospheric pressure corrected to the elevation of the radiosonde stations.

UPPER AIR CLIMATOLOGICAL DATA

Table B 1 (*contd.*) —MONTHLY MEANS, ABSOLUTE HIGHER AND LOWER VALUES OF ALTITUDE, AIR TEMPERATURE AND DEW POINT AT STANDARD AND SELECTED PRESSURE SURFACES

JUNE — 1968

Station	Pressure Surface Millibar	Altitude of Pressure Surface (gpm)				Temperature (°C)				Dew Point (°C)	
		N	Mean	Highest	Lowest	N	Mean	Highest	Lowest	N	Mean
Mersa Matruh (A) 1200 U.T.	Surface	24	1013mb.*	1015mb.*	1010mb.*	24	28.1	40.2	25.0	24	20.0
	1000	24	138	160	116	24	26.4	38.5	18.5	24	17.4
	850	24	1557	1592	1530	24	19.6	25.6	14.8	23	5.8
	700	23	3196	3250	3158	23	9.4	14.0	5.8	14	— 5.2
	600	22	4452	4508	4408	22	0.6	4.5	— 3.7	10	—13.2
	500	22	5890	5950	5832	22	— 8.9	— 5.2	—14.9	5	—22.0
	400	22	7577	7650	7464	22	—21.0	—16.9	—24.7	2	—35.8
	300	19	9632	9745	9512	19	—35.7	—28.1	—40.7	1	—51.0
	250	19	10888	11019	10726	19	—45.2	—37.0	—51.5	—	—
	200	18	12348	12514	12146	18	—53.2	—47.4	—60.5	—	—
	150	13	14182	14352	13941	13	—61.2	—57.1	—64.0	—	—
	100	10	16637	16812	16413	10	—65.7	—60.5	—70.4	—	—
	70	6	18789	18950	18700	6	—62.1	—60.2	—65.4	—	—
	60	5	19800	19895	19716	5	—58.9	—56.5	—61.0	—	—
	50	5	20963	21042	20889	5	—54.3	—51.7	—56.0	—	—
	40	4	22391	22431	22339	4	—50.0	—49.0	—51.5	—	—
	30	4	24287	24337	24229	4	—46.7	—45.7	—48.0	—	—
	20	3	27025	27065	26976	3	—41.8	—39.8	—43.0	—	—
	10	—	—	—	—	—	—	—	—	—	—
Helwan 1200 U.T.	Surface	30	* 994mb	* 998mb	* 990mb	30	34.5	40.0	29.9	30	10.4
	1000	30	89	133	41	—	—	—	—	—	—
	850	30	1525	1557	1476	30	21.3	27.6	14.5	30	0.2
	700	30	3175	3270	3129	30	10.9	15.4	7.4	29	—11.0
	600	30	4440	4535	4376	30	2.5	6.6	— 4.4	27	—18.9
	500	30	5888	5981	5834	30	— 7.1	— 1.8	—12.0	30	—27.1
	400	29	7592	7692	7466	29	—18.5	—10.8	—24.4	29	—36.4
	300	29	9673	9788	9499	29	—33.3	—27.3	—40.2	28	—49.3
	250	28	10928	11070	10715	28	—42.4	—35.6	—49.8	25	—56.1
	200	26	12402	12576	12026	26	—51.9	—47.2	—62.3	22	—63.9
	150	25	14234	14404	13968	25	—61.8	—59.1	—65.8	2	—71.2
	100	24	16699	16864	16484	24	—70.2	—64.4	—75.7	—	—
	70	16	18837	18980	18600	16	—65.2	—58.8	—69.3	—	—
	60	15	19769	19912	19501	15	—60.1	—57.2	—62.1	—	—
	50	15	20923	21083	20630	15	—55.4	—52.6	—58.9	—	—
	40	7	22367	22533	22054	7	—51.9	—48.7	—55.3	—	—
	30	7	24390	24433	24183	7	—45.2	—35.8	—50.7	—	—
	20	2	27235	27592	26878	2	—50.5	—44.5	—56.5	—	—
	10	—	—	—	—	—	—	—	—	—	—

N = Number of observations of specified pressure surface.

* The atmospheric pressure corrected to the elevation of the radiosonde stations.

Note.—Climatological upper air data for Asyut at 1200 U.T. are missing since number of release of radiosonde set at this station are less than the permissible number needed for calculating or processing monthly values.

TABLE B 2.—MEAN AND EXTREME VALUES OF THE FREEZING LEVEL AND THE TROPOPAUSE; THE HIGHEST WIND SPEED IN THE UPPER AIR

JUNE — 1968

	Station	Freezing level									First Tropopause									Highest wind speed			
		Mean			Highest			Lowest			Mean			Highest			Lowest						
		Altitude (gpm)	Pressure (mb.)	Dew point (°C)	Altitude (gpm)	Pressure (mb.)	Dew point (°C)	Altitude (gpm)	Pressure (mb.)	Dew point (°C)	Altitude (gpm)	Pressure (mb.)	Temperature (°C)	Altitude (gpm)	Pressure (mb.)	Temperature (°C)	Altitude (gpm)	Pressure (mb.)	Temperature (°C)	Altitude (gpm)	Pressure (mb.)	Direction (000—360)°	Speed in Knots
0000 UT		(N)	(N)	(N)							(N)	(N)	(N)										
	M. Matruh (A)	4375 (18)	604 (18)	- 7.6 (9)	4940	564	—	3700	653	—	14746 (5)	140 (5)	-66 9 (5)	16618	100	-71.3	12000	210	-57.5	13780	163	240	92
	Helwan . . .	4778 (29)	574 (29)	-19.4 (27)	5360	535	-25.1	4390	603	- 5.9	15455 (21)	124 (21)	-71.2 (21)	17300	85	-75.7	12550	191	-60.0	13060	181	220	145
	Aswan . .(A)	4990 (23)	561 (23)	-19 1 (20)	5540	530	-25.1	4440	600	-11.3	16661 (11)	101 (11)	-78.0 (11)	17920	84	-83.2	15770	116	-78.4	—	—	—	—
1200 U.T.		(N)	(N)	(N)							(N)	(N)	(N)										
	M. Matruh (A)	4578 (22)	594 (22)	-13 8 (7)	5110	554	—	3860	642	—	13130 (10)	172 (10)	-61.1 (10)	15280	125	-65.5	11320	239	-42.1	13800	162	250	95
	Helwan . . .	4843 (30)	571 (30)	-20 6 (26)	5560	522	—	4030	626	- 8.2	15999 (20	115 (20)	-70.6 (20)	17630	85	-75.6	12180	201	-62.3	14470	223	310	140
	Aswan . .(A)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

N = The number of cases the element has been observed during the month.

Table B 3. NUMBER OF OCCURRENCES OF WIND DIRECTION WITHIN SPECIFIED RANGES AND THE MEAN SCALAR WIND SPEED AT THE STANDARD AND SELECTED PRESSURE SURFACES

MERSA MATRUH (A) — JUNE 1968

Time	Pressure Surface (Millibar)	Wind between specified ranges of direction (000—360)°																						Number of Calm winds	Total Number of Observations (TN)	Mean Scalar wind Speed (Knots)
		345/014		015/044		045/074		075/104		105/134		135/164		165/194		195/224		225/254		255/284		285/314		315/344				
		N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m			
0000 U.T.	Surface	2	6	1	10	1	10	1	6	0	—	1	10	2	10	2	16	1	4	3	6	3	12	4	11	0	21	10
	1000	2	8	1	10	0	—	0	—	0	—	1	24	0	—	1	20	0	0	0	—	1	14	3	13	0	9	14
	850	4	19	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	3	18	1	22	0	8	19
	700	1	16	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	19	3	32	3	12	0	8	22
	600	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	29	4	36	2	16	0	7	29
	500	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	22	0	—	1	20	3	27	0	5	25
	400	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	28	3	33	0	—	0	5	31
	300	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	58	0	—	2	36	0	—	0	4	47
	250	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	3	32	0	—	1	58	0	—	0	4	54
	200	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	79	1	54	1	82	0	—	0	3	72
	150	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	60	0	—	0	—	0	—	0	1	60
	100	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	70	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	60	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1200 U.T.	Surface	2	11	6	13	2	16	0	—	0	—	0	—	0	—	0	—	1	30	0	—	3	18	10	13	0	24	15
	1000	5	13	1	7	2	13	2	18	0	—	0	—	0	—	0	—	0	—	0	—	2	14	11	17	0	23	15
	800	1	13	2	18	0	—	0	—	0	—	0	—	2	18	0	—	3	16	3	15	5	13	6	20	0	22	17
	700	3	19	0	—	0	—	0	—	0	—	0	—	0	—	1	43	3	21	4	35	3	26	7	26	0	21	27
	600	2	21	0	—	0	—	0	—	0	—	0	—	0	—	0	—	3	33	4	31	4	38	6	26	0	19	31
	500	0	—	1	14	0	—	0	—	0	—	0	—	0	—	0	—	6	36	3	32	6	36	3	32	0	19	34
	400	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	55	5	41	4	32	4	38	5	26	0	19	35
	300	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	66	2	46	6	42	6	46	0	—	0	15	46
	250	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	58	6	50	4	58	0	—	0	11	53
	200	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	70	2	57	2	56	0	—	0	5	59
	150	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	56	1	58	1	63	0	—	0	3	59
	100	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	15	0	—	0	1	15
	70	0	—	0	—	0	—	0	—	0	—	1	13	0	—	0	—	0	—	0	—	0	—	0	—	0	1	13
	60	0	—	0	—	0	—	1	16	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	1	16
	50	0	—	0	—	1	16	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	1	16
	40	0	—	0	—	0	—	1	10	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	1	10
	30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

N = The number of cases the elemert has been observed during the month.

TN = The total number of cases the wind has been observed for all directions during the month.

Table B 3. *(Cont.)* —**NUMBER OF OCCURRENCES OF WIND DIRECTION WITHIN SPECIFIED RANGES AND THE MEAN SCALAR WIND SPEED AT THE STANDARD AND SELECTED PRESSURE SURFACES**

HELWAN — JUNE 1968

Time	Pressure Surface (Millibar)	Wind between specified ranges of direction (000–360)°																						Number of Calm winds	Total Number of Observations (T N)	Mean Scalar wind Speed (Knots)
		345/014		015/044		045/074		075/104		105/134		135/164		165/194		195/224		225/254		255/284		285/314		315/344				
		N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m			
0000 U.	Surface	14	9	5	13	6	11	1	9	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	6	1	29	9
	1000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	850	15	19	3	11	3	21	0	—	0	—	0	—	0	—	0	—	1	17	1	5	2	23	4	20	0	29	18
	700	5	29	0	—	1	19	0	—	0	—	0	—	0	—	1	7	0	—	5	36	7	23	10	24	0	29	24
	600	2	42	1	4	0	—	0	—	0	—	0	—	0	—	0	—	1	21	5	34	12	29	8	19	0	29	27
	500	1	42	0	—	0	—	0	—	0	—	0	—	0	—	1	16	7	21	5	32	7	27	5	33	0	26	28
	400	1	50	0	—	0	—	0	—	0	—	0	—	1	6	1	50	4	31	10	42	6	34	3	17	0	26	35
	300	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	7	52	10	52	6	33	3	39	0	26	46
	250	2	68	0	—	0	—	0	—	0	—	0	—	0	—	2	60	7	57	8	56	3	34	2	32	0	24	53
	200	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	60	7	65	8	52	4	63	1	54	0	21	58
	150	0	—	0	—	0	—	0	—	0	—	0	—	1	50	1	53	6	54	6	60	2	52	1	33	0	17	55
	100	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	11	4	42	4	42	1	29	0	—	0	10	37
	70	0	—	0	—	2	28	2	12	1	14	1	17	0	—	0	—	0	—	0	—	0	—	0	—	0	6	19
	60	0	—	1	22	0	—	4	18	1	25	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	6	20
	50	0	—	0	—	2	18	2	34	1	22	0	—	0	—	0	—	0	—	0	—	1	37	0	—	0	6	27
	40	0	—	0	—	1	29	4	19	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	5	21
	30	0	—	0	—	0	—	1	15	3	27	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	4	24
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0	—	—
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0	—	—
1200 U.T.	Surface	11	12	3	10	1	19	2	6	1	8	0	—	0	—	0	—	1	13	0	—	2	12	9	12	0	30	12
	1000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	850	9	14	4	18	3	15	2	9	0	—	1	11	1	8	0	—	1	17	4	15	2	14	3	14	0	30	14
	700	7	27	2	14	0	—	0	—	0	—	0	—	0	—	0	—	4	24	6	16	7	21	4	18	0	30	21
	600	2	12	0	—	0	—	0	—	0	—	1	3	0	—	1	19	1	55	12	23	6	20	7	17	0	30	21
	500	1	8	0	—	0	—	0	—	0	—	0	—	0	—	0	—	3	24	14	31	5	26	6	21	0	29	26
	400	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	12	8	35	8	44	9	32	3	31	0	29	35
	300	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	40	7	53	13	50	2	40	3	44	0	27	49
	250	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	39	9	55	9	49	2	41	3	60	0	24	52
	200	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	34	7	54	6	59	3	70	1	40	0	19	55
	150	0	—	0	—	0	—	0	—	0	—	0	—	0	—	5	50	5	55	3	74	4	89	0	—	0	17	65
	100	0	—	0	—	0	—	0	—	0	—	0	—	1	32	2	24	3	22	3	36	0	—	0	—	0	9	28
	70	0	—	1	17	0	—	0	—	2	21	2	20	2	22	1	9	0	—	0	—	0	—	0	—	0	8	19
	60	0	—	0	—	0	—	2	26	2	27	1	27	0	—	1	35	0	—	0	—	0	—	0	—	1	7	24
	50	0	—	0	—	1	23	4	24	1	23	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	6	24
	40	0	—	0	—	0	—	1	32	2	28	1	25	0	—	0	—	0	—	0	—	0	—	0	—	0	4	28
	30	0	—	1	30	0	—	2	30	1	24	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	4	29
	20	0	—	0	—	0	—	1	29	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	1	29
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

N = The number of cases the element has been observed during the month.

TN = The total number of cases the wind has been observed for all directions during the month.

Table B 3. (*Contd.*) – **NUMBER OF OCCURRENCES OF WIND DIRECTION WITHIN SPECIFIED RANGES AND THE MEAN SCALAR WIND SPEED AT THE STANDARD AND SELECTED PRESSURE SURFACES**

ASWAN (A) — JUNE 1968

Time	Pressure Surface (Millibar)	Wind between specified ranges of direction (000–360)°																						Number of Calm winds	Total Number of Observations (TN)	Mean Scalar wind Speed (Knots)
		345/014		015/044		045/074		075/104		105/134		135/164		165/194		195/224		225/254		255/284		285/314		315/344				
		N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m			
0000 U.T.	Surface	9	10	3	7	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	6	3	8	7	10	0	23	9
	1000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	850	5	16	8	16	4	12	0	—	0	—	0	—	0	—	0	—	0	—	1	6	0	—	2	14	0	20	15
	700	3	12	1	8	2	13	0	—	0	—	0	—	2	9	2	16	4	9	1	19	2	8	3	12	0	30	11
	600	2	16	0	—	2	7	1	16	0	—	1	14	0	—	2	20	4	18	1	24	2	13	2	11	0	17	15
	500	3	7	1	29	0	—	0	—	2	11	1	17	0	—	1	9	1	11	3	9	2	12	2	12	0	16	12
	400	0	—	1	17	1	37	1	13	2	9	0	—	0	—	1	15	2	4	2	9	3	14	2	16	0	15	13
	300	2	21	0	—	1	14	0	—	0	—	2	15	1	14	1	20	4	16	1	15	1	16	1	12	0	14	15
	250	1	45	0	—	0	—	1	19	1	11	2	19	1	16	1	31	3	14	0	—	0	—	2	16	0	12	20
	200	0	—	0	—	0	—	0	—	2	12	2	20	2	22	2	24	3	17	1	25	0	—	1	23	0	13	20
	150	0	—	0	—	0	—	0	—	0	—	4	30	3	24	1	50	0	—	2	26	0	—	0	—	0	10	29
	100	0	—	0	—	0	—	1	20	2	26	3	18	1	18	0	—	2	14	1	15	0	—	0	—	0	10	19
	70	0	—	0	—	1	17	3	21	3	16	1	20	0	—	0	—	0	—	0	—	0	—	0	—	0	8	18
	60	0	—	0	—	1	15	4	21	1	17	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	6	21
	50	0	—	0	—	1	26	5	27	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	6	26
	40	0	—	0	—	0	—	1	38	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	1	38
	30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

N = The number of cases the element has been observed direction during the month.

TN = The total number of cases the wind has been observed for all directions during the month.

REVIEW OF AGRO-METEOROLOGICAL STATIONS

EL KASR — JUNE 1963

This month was warmer than normal. The daily maximum air temperatures were above normal during all the month. The month was characterized by three heat waves during the periods (1st-4th), (12th-14th), on the 19th and a warm spell on the 22nd. The third heat wave yielded the highest maximum air temperature for the month (40.0°C).

The extreme maximum soil temperatures were higher than the corresponding values of last June at all depths between 2 & 100 cms., and the differences ranged between 1.0°C at 2 cms. & 1.0°C at 50 cms. The extreme minimum soil temperatures were also higher than the corresponding values of last June at all depths between 2 & 100 cms., and the differences ranged between 3.0°C at 20 cms. & 0.9°C at 100 cms.

The mean daily Pan evaporation was 0.51 mms. more than the corresponding value of June 1967. The total actual duration of bright sunshine was 13.4 hours less than the corresponding value of June 1967.

TAHRIR — JUNE 1968

This month was warmer than last June. The daily maximum air temperatures were above normal most days of the month. The month was characterized by five heat waves during the periods : (1st-4th), (8th-9th), (14th-15th), (19th-20th) and (22nd-25th). The first heat wave yielded the highest maximum air temperature for the month (42.1°C) on the 4th.

The extreme maximum soil temperatures were higher than the corresponding values of last June at depths between 2 & 20 cms. with differences ranging between 4.4°C at 5 cms. and 0.5°C at 20 cms. At 50 & 100 cms.depths the extreme soil maxima were slightly lower than last June with differences ranging between 0.3° & 0.1°C. The extreme minimum soil temperatures were higher than the corresponding values of last June at all depths between 2 & 100 cms., and the differences ranged between 3.3°C at 20cms.& 1.3°C at 100 cms.

The mean daily Pan evaporation was 1.09 mms. less than the corresponding value of June 1967. The total actual duration of bright sunshine was 22.5 hours less than the corresponding value of June 1967.

BAHTIM — JUNE 1968

This month was warmer than last June. The daily maximum air temperatures were above average most days of the month. The month was characterized by five heat waves during the periods : (1st - 5th), (8th - 9th),(13th - 15th), (19th - 23rd) and on the 26th. The first heat wave yielded the highest maximum air temperature for the month (42.0C) on the 4th.

The extreme maximum soil temperatures were higher than the corresponding values of last June at all depths between 2 & 100 cms., and the differences ranged between 6.5°C at 2 cms. & 1.4°C at 20 cms. The extreme minimum soil temperatures were also higher than the corresponding values of last June at all depths between 2 & 100 cms. and the differeneces ranged between 3.9°C at 50 cms. and 1.8°C at 100 cms.

The mean daily Pan evaporation was 0.58 mms. less than the corresponding value of June 1967. The mean daily actual duration of bright sunshine was 0.6 hour less than the corresponding value of June 1967.

KHARGA — JUNE 1968

This month was warmer than normal. The daily maximum air temperatures were above normal most of the month. The month was characterized by five heat waves during the periods : (1st-9th), (13th-16th), (19th-20th), on the 23rd & (26th-27th). The first heat wave was prolonged and excessive, yielding the highest maximum air temperature for the month (45.6°C) on the 3rd and the highest minimum air temperature (30.2°C) on the 9th.

The extreme maximum soil temperatures were lower than the corresponding values of last June at 2 & 5 cms. depths and the differences were 0.9°C &1.5°C respectively. At deeper depths between 10 & 100 cms. the extreme soil maxima were higher than last June with small differences ranging between 0.6°C & 0.1°C. The extreme minimum soil temperatures were higher than the corresponding values of last June at all depths between 2 & 100 cms., and the differences ranged between 4.1°C at 5 cms. and 0.6°C at 100 cms.

The mean daily Pan evaporation was 0.16 mms. less than the corresponding value of June 1967. The total actual duration of bright sunshine was 10.2 hours less than the corresponding value of June 1967.

Note :

During this month recording charts of the mercury in steel hygrograph were not available at El Kasr, Tahrir, Bahtim & Kharga centres. For these centers mean of the day of air temperature, relative humidity and vapour pressure were calculated using the following equations :

mean of the day of air temperature.

$$= [(0600+1200+1800) \text{ U.T. dry bulb readings} + \text{minimum air temperature}] \div 4.$$

mean of the day of relative humidity.

$$= (0600+1800) \text{ U.T. observations} \div 2.$$

mean of the day of vapour pressure.

$$= (0600+1200+1800) \text{ U.T. observations} \div 3.$$

Table C 1.– AIR TEMPERATURE AT 1½ METRES ABOVE GROUND

JUNE — 1968

STATION	Air Temperature (°C)					Mean Duration in hours of daily air temperature above the following values										
	Mean Max.	Mean Min.	Mean of the day	Night time mean	Day time mean	—5°C	0°C	5°C	10°C	15°C	20°C	25°C	30°C	35°C	40°C	45°C
El Kasr . .	29.9	20.6	24.8	—	—	—	—	—	—	—	—	—	—	—	—	—
Tahrir	35.4	19 8	26.6	—	—	—	—	—	—	—	—	—	—	—	—	—
Bahtim	36.1	18.8	27.0	—	—	—	—	—	—	—	—	—	—	—	—	—
Kharga	41.4	26.4	34.1	31.0	35.3	—	—	—	—	—	—	—	—	—	—	—

Table C 2.– EXTREME VALUES OF AIR TEMPERATURE AT 1½ METRES ABOVE GROUND, ABSOLUTE MINIMUM AIR TEMPERATURE AT 5cms ABOVE GROUND OVER DIFFERENT FIELDS.

JUNE — 1968

STATION	Max. Temp. at 1½ metres (°C)				Min. Temp. at 1½ metres (°C)				Min. Temp. at 5 cms. above (°C)			
	Highest		Lowest		Highest		Lowest		Dry soil		Grass	
	Value	Date	Value	Date	Value	Date	Value	Date	Value	Date	Value	Date
El Kasr	40 0	19	26.5	5	24.6	23	15.2	11	11.5	11	—	—
Tahrir	42 1	4	30.7	27	21 8	5	17.1	12	15.4	12	—	—
Bahtim, , , , , .	42.0	4	31.4	10	20 8	8	15.6	17	12.1	17	—	—
Kharga	45.6	3	36.2	29	30.2	9	22.8	4	20.2	4	—	—

Table C 3. –(SOLAR+SKY) RADIATION, DURATION OF BRIGHT SUNSHINE, RELATIVE HUMIDITY, VAPOUR PRESSURE AT 1½ METRES ABOVE GROUND, EVAPORATION & RAINFALL

JUNE — 1968

STATION	(Solar+Sky) Radiation gm. cal/cm²	Duration of Bright Sunshine (hours)			Relative Humidity				Vapour pressure (mms)						Evaporation (mms)		Rainfall (mms)		
		Total Actual monthly	Total Possible monthly	%	Mean of day	1200 U.T.	Lowest	Date	Mean of day	1200 U.T.	Highest	Date	Lowest	Date	Piche	Pan class A	Total Amount Monthly	Max. Fall in one day	Date
El Kasr .	564.8	3 58.9	425.5	84	74	65	21	19	17.8	18.2	22.5	19	11.1	12	6.1	11.08	0.0	0.0	—
Tahrir. .	635.9	353 3	421.3	84	71	47	29	23	18.3	18 2	22.7	4	13.1	16	10.5	10.96	0.0	0.0	—
Bahtim .	669 9	345.7	421.7	82	55	29	12	4	13 9	12.1	18.8	5	7.5	9	16.0	13.83	0.0	0.0	—
Kharga .	599.8	360.0	409.8	88	22	12	4	3	8.0	6.8	14.1	29	2.9	3	32.2	25.79	0.0	0.0	—

TABLE C 4.—EXTREME SOIL TEMPERATURE AT DIFFERENT DEPTHS (cms) IN DIFFERENT FIELDS

JUNE — 1968

STATION	Highest (H) Lowest (L)	Extreme soil tempetature (°C) in dry field at different depths (cms.)								Extreme soil temperature (°C) in grass field at different depths (cms,)							
		2	5	10	20	50	100	200	300	2	5	10	20	50	100	200	300
El Kasr. . . .	H	48.8	42.9	36.8	30 2	28.3	26.3	20.7	—	—	—	—	—	—	—	—	—
	L	25.7	24.0	23.3	26.0	26.0	23.7	20.2	—	—	—	—	—	—	—	—	—
Tahrir	H	56.7	50.2	43.6	37.2	32.5	30.6	28.2	26.4	—	—	—	—	—	—	—	—
	L	27.8	27.2	27.0	29.9	30.2	28.6	25.9	24.6	—	—	—	—	—	—	—	—
Bahtim . . .	H	58.0	44.4	38.7	33.0	30.9	28.3	25.3	23.4	—	—	—	—	—	—	—	—
	L	30.1	28.4	28.3	29.9	28.2	25.9	23.6	22.5	—	—	—	—	—	—	—	—
Kharga. . . .	H	59.9	53.2	45.0	38.6	34.6	32.2	29.4	27.4	—	—	—	—	—	—	—	—
	L	24.5	27.9	31.2	33.4	32.4	29.9	27.7	26.9	—	—	—	—	—	—	—	—

TABLE C 5.—SURFACE WIND

JUNE — 1968

STATION	Wind Speed m/sec at 1½ metres			Days with surface wind speed at 10 metres.							Max. Gust (knots) at 10 metres	
	Mean of the day	Night time mean	Day time mean	≥ 10 knots	≥ 15 knots	≥ 20 knots	≥ 25 knots	≥ 30 knots	≥ 35 knots	≥ 40 knots	Value (knots)	Date
El Kasr . . .	4.0	3.2	5.0	—	—	—	—	—	—	—	—	—
Tahrir	2.6	1.7	3.5	30	18	3	0	0	0	0	28	4
Bahtim	3.1	1.9	4.3	29	28	10	0	0	0	0	27	2,8
Kharga . . .	5.1	4.2	6.0	30	28	25	7	4	1	0	42	22

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THE ARAB REPUBLIC OF EGYPT

MONTHLY WEATHER REPORT

VOLUME 11 NUMBER 7

JULY, 1968

U.D.C. 551. 506.1 (62)

THE EGYPTIAN METEOROLOGICAL AUTHORITY
CAIRO

PUBLICATIONS OF THE METEOROLOGICAL AUTHORITY OF THE ARAB REPUBLIC OF EGYPT—CAIRO

In fulfilment of its duties, the Egyptian Meteorological Authority issues serveral reports and publications on weather, climate and agro-meteorology. The principal publications are described on this page.

Orders for publications should be addressed to :

"Chairman of the Board of Directors, Meteorological Authority, Kubri-el-Qubbeh — CAIRO".

THE DAILY WEATHER REPORT

This report is issued daily by the Meteorological Authority since the year 1901. It includes surface and upper air observations carried out by the relevant networks of the Republic at the principal hours of observations.

As from January 1968 this report was revised to include a condensed representative selection of surface and upper air observations besides the 1200 U.T. surface & 500 mb charts.

As from 1st January 1972, the Daily Weather Report will not be issued or distributed because it does not serve no longer any good purpose as it used to be in the past. The Meteorological Authority is ready to supply the recipients of the Report with any information used to be included in it, if they so desire.

THE MONTHLY WEATHER REPORT

First issued in 1909, the Monthly Weather Report served to give a brief summary of the weather conditions that prevailed over Egypt during the month, with a table showing the mean values for few meteorological elements and their deviations from the normal values. From 1954 to 1957 this report was in a rapid state of development and extension resulting into a voluminous report on January 1958 giving surface, upper air, and agro-meteorological data for Egypt.

As from January 1964, the Monthly Weather Report was pressed to give climatological data for a representative selection of synoptic stations.

THE AGRO-METEOROLOGICAL ABRIDGED MONTHLY REPORT

Gives a review of weather experienced in the agro-meteorological stations of Egypt as well as monthly values of certain elements.

THE ANNUAL REPORT

This report gives annual values and statistics for the various meteorological elements, together with a summary of the weather conditions that prevailed during all months of the year.

CLIMATOLOGICAL NORMALS FOR EGYPT

A voluminous edition was issued in March 1968 which brings normals and mean values up till 1960.

METEOROLOGICAL RESEARCH BULLETIN

First issued in January 1969 on a bi-annual basis. It includes research works carried out by members of staff of "The Meteorological Institute for Research and Training" and the Operational Divisions of the Meteorological Authority.

TECHNICAL NOTES

As from October 1970, the Meteorological Authority started to issue a new series of publications in the form of Technical Notes (non periodical) on subjects related to studies and applications of meteorology in different fields for the benefit of personnel working in these fields.

THE ARAB REPUBLIC OF EGYPT

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THE EGYPTIAN METEOROLOGICAL AUTHORITY
CAIRO

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Note For explanatory notes on tables please refer to Volume 11, Number 1 (January 1968).

GENERAL SUMMARY OF WEATHER CONDITIONS

JULY 1968

Normal summer intervened with two mild periods. Early morning mist over Delta, Canal & Cairo areas

GENERAL DESCRIPTION OF WEATHER

The prevailing weather during this month was generally rather hot in the northern parts, hot in the central parts and excessively hot in the southern parts. The month was intervened with two heat waves round the periods : (1st-4th) & (10th-20th). The first heat wave was light, while the second was excessive. Both heat waves broke down with mild periods.

Early morning low clouds developed frequently with few occasions of mist over scattered parts in Lower Egypt & Cairo. Light rising sand occurred during several days over scattered parts in the Western Desert & Red Sea areas.

PRESSURE DISTRIBUTION

The most outstanding features of pressure distribution over the surface maps during this month were :

— The Atlantic anticyclone.

— Deep low pressure systems through North Europe, attached sometimes with secondaries over Central Europe.

— Local anticyclones moving through Europe.

— A ridge over Central Mediterranean & Libya.

— The complex monsoon low pressure system over the Arabian Gulf, Arabia & North Sudan.

The barometric pressure over Egypt during this month experienced six falls slight in general round the periods : (3rd – 4th). (8th - 10th), (13th - 15th), (17th – 18th), (20th–21st) & (24th–26th) respectively. These pressure falls were caused by the slight deepening of the Iraq monsoon trough and its westward elongation through East Mediterranean during the first five periods or its north-westward elongation towards the Balkans during the last period. These elongations were favoured by the transits of secondary lows or troughs north of the Black Sea area.

During the rest periods of the month, the barometric pressure over Egypt was above normal and high pressure over Central Mediterranean & Libya intensified and extended slightly eastwards.

The most important features of pressure distribution over the upper air charts were :

— Two deep upper low pressure systems over North Atlantic and North Urasia.

— Secondary upper lows or troughs over middle latitudes traversing East Mediterranean and north Egypt on the 10 th & 17 th.

— Upper high pressure system over the subtropical latitudes south of 30°N.

SURFACE WIND

The prevailing surface winds during this month were generally light to moderate and blew from NE to NW directions. Winds became fresh to strong during several days of the month over scattered parts in the Mediterranean, Western Desert, Upper Egypt & Red Sea districts. Calms were frequent most of night and early morning intervals in scattered localities.

TEMPERATURE

Maximum air temperature oscillated slightly to moderately above normal in the northern parts most days of the month. In the central and southern parts, it was slightly to moderately above normal during the two heat waves and slightly below normal otherwise. Maximum air temperature values ranged most days of the month between 29°C & 35°C in the northern parts, between 34°C & 40°C in the central parts, between 40°C & 44°C in the southern parts.

The absolute maximum air temperature was 47.2°C reported at Kom Ombo on the 17th.

Minimum air temperature oscillated slightly to moderately above normal most days of the month in all districts - Minimum air temperature values ranged generally between 19°C & 25°C in the northern & central parts and between 22°C & 28°C in the southern parts.

The absolute minimum air temperature was 16.8°C reported at Imbaba on the 4th.

PRECIPITATION

As usual this month was rainless.

Chairman (M. F. TAHA)

Board of Directors

Cairo, March 1972

Table A 1. — MONTHLY VALUES OF THE ATMOSPHERIC PRESSURE, AIR TEMPERATURE, RELATIVE HUMIDITY, BRIGHT SUNSHINE DURATION & PICHE EVAPORATION.

JULY — 1968

STATION	Atmospheric Pressure (mbs) M.S.L.		Air Temperature °C									Relative Humidity %		Bright Sunshine Duration (Hours)			Piche Evaporation (mms) Mean
			Maximum		Minimum		$\frac{A+B}{2}$	Dry Bulb		Wet Bulb							
	Mean	D.F. Normal or Average	(A) Mean	D.F. Normal or Average	(B) Mean	D.F. Normal or Average		Mean	D.F. Normal or Average	Mean	D.F. Normal or Average	Mean	D.F. Normal or Average	Total Actual	Total Possible	%	
Sallum	1011.5	+ 1.2	31.5	+ 0.6	22.2	+ 0.9	26.9	26.6	+ 0.5	21.8	+ 0.4	64	0	—	—	—	8.6
Mersa Matruh . (A)	1010.7	— 0.9	29.0	— 0.2	21.1	+ 0.8	25.1	25.4	+ 0.4	21.9	+ 0.4	72	— 1	—	—	—	7.8
Alexandria . . (A)	1010.0	+ 1.5	31.4	+ 1.7	23.4	+ 0.8	27.4	26.7	+ 0.7	22.6	+ 0.1	69	— 4	380.6	432.3	88	6.7
Port Said . . . (A)	1008.2	+ 0.7	30.8	+ 0.4	24.5	+ 0.4	27.7	—	—	—	—	—	—	(355.9)	(418.4)	(85)	7.2
El Arish	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ghazza	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tanta	1009.1	+ 1.5	34.3	— 0.1	20.6	+ 1.3	27.4	26.8	+ 0.3	22.1	+ 0.7	65	+ 3	378.0	431.0	88	6.4
Cairo . . . . . (A)	1008.6	+ 0.6	35.2	0.0	22.1	+ 0.6	28.7	28.2	+ 0.3	21.4	+ 0.1	52	— 1	—	—	—	19.1
Fayoum	—	—	37.8	+ 1.1	21.8	+ 0.3	29.8	—	—	—	—	—	—	—	—	—	10.1
Minya . . . . (A)	1007.5	+ 0.6	37.5	+ 0.8	21.6	+ 1.3	29.5	29.6	+ 1.1	20.6	+ 0.3	40	— 5	377.6	425.3	89	16.5
Assyout . . . (A)	1006.8	0.0	37.5	+ 0.7	23.0	+ 0.7	30.2	30.3	+ 0.5	20.3	+ 0.9	36	+ 2	—	—	—	20.0
Luxor . . . . (A)	1005.7	+ 0.9	41.1	+ 0.6	24.8	+ 1.2	32.9	33.0	+ 0.2	20.6	+ 0.7	28	+ 3	—	—	—	14.8
Aswan . . . . (A)	1005.5	+ 0.8	42.0	+ 0.9	25.7	+ 1.0	33.9	34.2	+ 0.6	18.3	+ 0.2	14	— 1	—	—	—	30.6
Siwa	1010.3	+ 0.6	38.0	+ 0.1	21.1	+ 0.4	29.6	29.9	+ 0.2	20.2	+ 0.8	37	+ 3	—	—	—	15.9
Bahariya	1008.9	+ 0.9	38.0	+ 1.1	22.5	+ 2.0	30.3	30.4	+ 1.0	19.7	+ 0.3	33	— 3	—	—	—	12.4
Farafra	1009.8	+ 0.4	37.9	+ 0.7	22.4	+ 1.1	30.4	30.4	+ 0.6	17.4	— 0.2	28	+ 4	—	—	—	19.7
Dakhla	1008.2	+ 1.4	38.3	— 0.2	20.5	— 2.4	29.4	31.2	+ 0.2	17.8	— 0.1	21	0	—	—	—	23.9
Kharga	1007.0	+ 0.6	40.0	+ 0.6	24.9	+ 1.7	31.8	33.0	+ 1.4	18.1	— 0.6	23	— 3	365.1	418.9	87	26.1
Tor	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hurghada . .	1004.7	+ 0.3	34.2	+ 1.3	26.0	+ 1.1	30.1	30.4	+ 0.9	21.8	+ 0.1	44	— 3	—	—	—	24.4
Quser	1005.8	+ 0.9	33.1	— 0.1	26.9	+ 0.6	30.0	30.2	+ 0.3	22.8	+ 0.6	51	+ 3	—	—	—	16.8

Note : The number of records for the sunshine at Port-Said was 30 days only.

Table A2. — MAXIMUM AND MINIMUM AIR TEMPERATURES

JULY — 1968

Station	Maximum Temperature °C									Grass Min. Temp.		Minimum Temperature °C							
	Highest	Date	Lowest	Date	No. of Days with Max-Temp.					Mean	D. From Normal	Highest	Date	Lowest	Date	No. of Days with Min. Temp.			
					>25	>30	>35	>40	>45							<10	<5	<0	<-5
Sallum	37.2	19	27.4	7	31	22	1	0	0	21.9	—	24.5	19	20.7	7	0	0	0	0
Mersa Natruh (A)	33.0	3	28.4	7	31	14	0	0	0	—	—	24.3	20	19.0	25	0	0	0	0
Alexandria (A)	35.8	12	28.7	25	31	28	1	0	0	—	—	25.0	17.19.20	20.3	3	0	0	0	0
Port Said (A)	33.6	16	28.2	7	31	21	0	0	0	23.9	—	26.4	11,12	22.8	6	0	0	0	0
El Arish	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ghazza	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tanta	37.8	12	31.8	31	31	31	11	0	0	—	—	23.0	17	18.6	26	0	0	0	0
Coiro (A)	39.7	15	32.3	31	31	31	14	0	0	—	—	25.6	15	20.3	22	0	0	0	0
Fayoum	41.6	12	34.8	31	31	31	28	7	0	19.9	—	26.2	14	18.2	24	0	0	0	0
Minya (A)	42.2	16	34.8	7	31	31	30	6	0	19.8	—	26.2	16	18.0	29	0	0	0	0
Assyout (A)	42.4	15	34.3	31	31	31	24	6	0	21.6	—	27.4	14	19.2	25	0	0	0	0
Luxor (A)	46.6	17	37.4	9	31	31	31	17	3	21.4	—	30.0	18	22.2	7	0	0	0	0
Aswan (A)	46.5	17	38.5	10	31	31	31	25	3	—	—	31.0	16	24.1	11	0	0	0	0
Siwa	43.6	19	34.3	6	31	31	27	8	0	20.5	—	24.5	12	18.5	26,29	0	0	0	0
Bahariya	42.4	12	35.1	6,31	31	31	31	7	0	20.2	—	26.8	13	19.6	25	0	0	0	0
Farafra	42.0	13	34.2	21	31	31	29	7	0	22.1	—	26.8	13	20.0	2	0	0	0	0
Dakhla	41.8	4	33.8	25	31	31	29	9	0	—	—	29.0	17	19.8	11	0	0	0	0
Kharga	44.4	16	37.4	24	31	31	31	13	0	23.0	—	31.4	14	20.3	2	0	0	0	0
Tor	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hurghada	36.4	17	31.6	8	31	31	8	0	0	24.5	—	29.0	18	23.1	2	0	0	0	0
Quseir	37.0	22	31.3	6	31	31	2	0	0	24.6	—	28.6	18	25.0	10	0	0	0	0

Table A 3.– SKY COVER AND RAINFALL

JULY — 1968

Station	Mean Sky Cover Oct.					Rainfall mms.										
	00 U.T.	06 U.T.	12 U.T.	18 U.T.	Daily Mean	Total Amount	D. From Normal	Max. Fall in one day		Number of Days with Amount of Rain						
								Amount	Date	<0.1	≥0.1	≥1.0	≥5.0	≥10	≥25	≥50
Sallum (A)	0.2	0.7	0.2	0.3	0.3	0.0	0.0	0.0	—	0	0	0	0	0	0	0
Mersa Matruh (A)	0.6	3.5	0.9	1.6	1.2	0.0	0.0	0.0	—	0	0	0	0	0	0	0
Alexandria (A)	2.2	1.9	1.4	0.8	1.5	0.0	0.0	0.0	—	0	0	0	0	0	0	0
Port Said (A)	—	0.7	0.3	—	—	0.0	0.0	0.0	—	0	0	0	0	0	0	0
El Arish	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ghazza	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tanta	0.5	0.9	0.5	0.0	0.4	0.0	0.0	0.0	—	0	0	0	0	0	0	0
Cairo (A)	2.0	2.5	0.9	0.5	0.9	0.0	0.0	0.0	—	0	0	0	0	0	0	0
Fayoum	—	1.6	0.5	0.7	—	0.0	0.0	0.0	—	0	0	0	0	0	0	0
Minya (A)	0.7	1.1	0.5	0.7	0.7	0.0	0.0	0.0	—	0	0	0	0	0	0	0
Assyout (A)	0.4	0.7	0.4	0.6	0.4	0.0	0.0	0.0	—	0	0	0	0	0	0	0
Luxor (A)	0.5	1.0	0.9	0.8	0.8	0.0	0.0	0.0	—	0	0	0	0	0	0	0
Aswan (A)	0.8	1.5	0.9	1.2	1.0	0.0	0.0	0.0	—	0	0	0	0	0	0	0
Siwa	0.0	0.8	0.2	0.2	0.1	0.0	0.0	0.0	—	0	0	0	0	0	0	0
Bahariya	0.0	0.2	0.3	0.3	0.2	0.0	0.0	0.0	—	0	0	0	0	0	0	0
Farafra	—	0.0	0.4	0.0	—	0.0	0.0	0.0	—	0	0	0	0	0	0	0
Dakhla	0.0	0.3	0.4	0.4	0.3	0.0	0.0	0.0	—	0	0	0	0	0	0	0
Kharga	0.5	0.8	0.7	0.4	0.6	0.0	0.0	0.0	—	0	0	0	0	0	0	0
Tor	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hurghada	0.5	0.9	0.8	0.9	0.7	0.0	0.0	0.0	—	0	0	0	0	0	0	0
Quseir	0.4	1.3	0.9	1.1	0.9	0.0	0.0	0.0	—	0	0	0	0	0	0	0

Table A 4.— DAYS OF OCCURRENCE OF MISCELLANEOUS WEATHER PHENOMENA

JULY — 1968

Station	Precipitation				Frost	Thunderstorm	Mist Vis > 1000 metres	Fog Vis <1000 Metres	Haze Vis >1000 Metres	Thick Haze Vis <1000 Metres	Dust or Sandstorm Vis >1000 Metres	Dust or Sandstorm Vis <1000 Metres	Gale	Clear Sky	Cloudy Sky
	Rain	Snow	Ice Pellets	Hail											
Sallum (A)	0	0	0	0	0	0	0	0	0	0	2	0	0	31	0
Mersa Matruh (A)	0	0	0	0	0	0	4	3	0	0	5	0	0	24	0
Alexandria (A)	0	0	0	0	0	0	0	2	0	0	0	0	0	21	0
Port Said (A)	0	0	0	0	0	0	0	0	0	0	0	0	0	—	—
Al Arish	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ghazza	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tanta	0	0	0	0	0	0	3	2	0	0	0	0	0	31	0
Cairo (A)	0	0	0	0	0	0	13	4	3	0	1	0	0	22	0
Fayoum	0	0	0	0	0	0	0	0	0	0	0	0	0	—	—
Minya (A)	0	0	0	0	0	0	0	0	0	0	0	0	0	26	0
Assyout (A)	0	0	0	0	0	0	0	0	0	0	0	0	0	27	0
Luxor (A)	0	0	0	0	0	0	0	0	0	0	0	0	0	25	0
Aswan (A)	0	0	0	0	0	0	0	0	1	0	8	0	0	24	0
Siwa	0	0	0	0	0	0	0	0	0	0	0	0	0	31	0
Bahariya	0	0	0	0	0	0	0	0	0	0	0	0	0	31	0
Farafra	0	0	0	0	0	0	0	0	0	0	0	0	0	—	—
Dakhala	0	0	0	0	0	0	0	0	2	0	6	0	0	24	0
Kharga	0	0	0	0	0	0	0	0	0	0	1	0	0	26	0
Tor	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hurghada	0	0	0	0	0	0	0	0	0	0	8	0	0	26	0
Quseir	0	0	0	0	0	0	0	0	0	0	0	0	0	25	0

Table A 5.—NUMBER IN HOURS OF OCCURRENCES OF CONCURRENT SURFACE WIND SPEED AND DIRECTION RECORDED WITHIN SPECIFIED RANGES

JULY — 1968

Station	Calm (hours)	Variable (hours)	Unrecorded (hours)	Wind speed in knots	Number in hours of occurrences of wind blowing from the ranges of directions indicated												All directions
					345 / 014	015 / 044	045 / 074	075 / 104	105 / 134	135 / 164	165 / 194	195 / 224	225 / 254	255 / 284	285 / 314	315 / 344	
Sallum	1	0	0	1–10	83	129	15	20	7	2	1	2	8	15	51	135	468
				11–27	48	57	0	0	0	0	0	0	0	0	27	143	275
				28–47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**131**	**186**	**15**	**20**	**7**	**2**	**1**	**2**	**8**	**15**	**78**	**278**	**743**
Mersa Matruh (A)	8	0	35	1–10	76	13	4	5	0	1	2	24	5	66	83	69	348
				11–27	126	2	1	3	3	0	0	2	0	1	35	180	353
				28–47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**202**	**15**	**5**	**8**	**3**	**1**	**2**	**26**	**5**	**67**	**118**	**249**	**701**
Alexandria	1	0	0	1–10	15	8	2	4	3	1	1	5	2	39	141	227	448
				11–27	1	0	0	0	0	0	0	0	0	10	118	166	295
				28–47	0	0	0	0	0	0	0	0	0	0	0	0	0
				>48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**16**	**8**	**2**	**4**	**3**	**1**	**1**	**5**	**2**	**49**	**259**	**393**	**743**
Port Said (A)	3	0	8	1–10	140	9	5	2	4	1	2	4	42	55	81	164	509
				11–27	5	0	0	0	0	0	0	0	16	53	97	53	224
				28–47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**145**	**9**	**5**	**2**	**4**	**1**	**2**	**4**	**58**	**108**	**178**	**217**	**733**
Tanta	11	0	210	1–10	17	15	0	0	0	0	1	53	90	110	168	61	515
				11–27	0	0	0	0	0	0	0	0	0	7	1	0	8
				28–47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**17**	**15**	**0**	**0**	**0**	**0**	**1**	**53**	**90**	**117**	**169**	**61**	**523**
Cairo	63	0	0	1–10	116	72	38	15	3	0	0	1	0	30	87	133	495
				11–27	83	18	4	0	0	0	0	0	0	0	10	71	186
				28–47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**199**	**90**	**42**	**15**	**3**	**0**	**0**	**1**	**0**	**30**	**97**	**204**	**681**
Fayoum	6	1	1	1–10	410	96	2	0	0	0	0	1	2	3	22	196	732
				11–27	2	1	0	0	0	0	0	0	0	0	0	1	4
				28–47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**412**	**97**	**2**	**0**	**0**	**0**	**0**	**1**	**2**	**3**	**22**	**197**	**736**
Minya	6	0	0	1–10	406	56	0	0	0	1	1	0	1	0	8	39	512
				11–27	218	6	0	0	0	0	0	0	0	0	0	2	226
				28–47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**624**	**62**	**0**	**0**	**0**	**1**	**1**	**0**	**1**	**0**	**8**	**41**	**738**
Asyout	1	0	49	1–10	26	5	0	0	0	2	0	2	5	107	211	118	476
				11–27	10	1	0	0	0	0	0	0	0	3	83	121	218
				28–47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**36**	**6**	**0**	**0**	**0**	**2**	**0**	**2**	**5**	**110**	**294**	**239**	**694**

Table A 5 (*contd.*).—NUMBER IN HOURS OF OCCURRENCES OF CONCURRENT SURFACE WIND SPEED AND DIRECTION RECORDED WITHIN SPECIFIED RANGES

JULY — 1968

Station	Calm (hours)	Variable (hours)	Unrecorded (hours)	Wind speed in knots	Number in hours of occurrences of wind blowing from the ranges of directions indicated												All directions
					345 / 014	015 / 044	045 / 074	075 / 104	105 / 134	135 / 164	165 / 194	195 / 224	225 / 254	255 / 284	285 / 314	315 / 344	
Luxor	10	0	0	1–10	23	9	10	3	13	49	80	81	73	116	184	74	715
				11–27	0	0	0	0	0	0	0	0	0	1	6	12	19
				28–47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**23**	**9**	**10**	**3**	**13**	**49**	**80**	**81**	**73**	**117**	**190**	**86**	**734**
Aswan	2	6	1	1–10	75	22	7	3	3	16	30	14	11	56	110	163	510
				11–27	19	1	0	0	0	0	2	0	0	6	70	127	225
				28–47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**94**	**23**	**7**	**3**	**3**	**16**	**32**	**14**	**11**	**62**	**180**	**290**	**735**
Siwa	2	14	0	1–10	66	141	51	21	6	5	1	5	14	71	103	181	665
				11–27	15	17	0	0	0	0	0	0	0	0	10	21	63
				28–47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**81**	**158**	**51**	**21**	**6**	**5**	**1**	**5**	**14**	**71**	**113**	**202**	**728**
Dakhla	1	8	0	1–10	85	73	9	9	2	3	14	11	38	109	143	150	646
				11–27	39	3	0	0	0	0	0	0	0	0	0	47	89
				28–47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**124**	**76**	**9**	**9**	**2**	**3**	**14**	**11**	**38**	**109**	**143**	**197**	**735**
Kharga	13	1	12	1–10	120	31	19	9	1	2	0	7	3	17	86	200	495
				11–27	71	2	0	0	0	0	0	0	1	0	24	125	223
				28–47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**191**	**33**	**19**	**9**	**1**	**2**	**0**	**7**	**4**	**17**	**110**	**325**	**718**
Hurghada	17	0	0	1–10	28	35	17	2	6	24	5	0	1	5	47	36	206
				11–27	121	20	0	0	0	0	0	0	0	4	53	301	499
				28–47	0	0	0	0	0	0	0	0	0	0	0	22	22
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**149**	**55**	**17**	**2**	**6**	**24**	**5**	**0**	**1**	**9**	**100**	**359**	**727**
Quseir	5	0	300	1–10	54	13	7	6	4	13	6	3	9	12	41	89	257
				11–27	83	0	0	0	0	0	0	0	0	0	1	98	182
				28–47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**137**	**13**	**7**	**6**	**4**	**13**	**6**	**3**	**9**	**12**	**42**	**187**	**439**

UPPER AIR CLIMATOLOGICAL DATA

Table B 1.—MONTHELY MEAN AND MONTHLY ABSOLUTE HIGHER AND LOWER VALUES OF ALTITUDE AIR TEMPERATURE AND DEW POINT AT STANDARD AND SELECTED PRESURE SURFACES

JULY — 1968

Station	Pressure Surface (Millibar)	Altitude of Pressure Surface (gpm)				Temperature (°C)				Dew Point (°C)	
		N	Mean	Highest	Lowest	N	Mean	Highest	Lowest	N	Mean
Mersa Matruh 0000 U.T.	Surface	21	1011m.b.*	1013m.b.*	1008m.b.*	21	22.8	25.4	20.2	21	20.0
	1000	21	119	140	98	21	22.7	24.6	20.0	21	19.9
	850	21	1533	1553	1517	21	19.9	25.3	13.4	18	5.1
	700	21	3180	3215	3143	21	11.5	15.1	7.5	4	5.5
	600	20	4448	4497	4395	20	4.0	7.2	1.9	2	— 6.6
	500	19	5908	5972	5842	19	— 3.8	2.1	— 8.5	1	— 8.8
	400	19	7632	7713	7582	19	—14.9	—11.3	—22.9	1	—20.8
	300	16	9757	9830	9691	16	—29.9	—27.0	—38.2	—	—
	250	14	11035	11104	10928	14	—38.5	—35.5	—41.4	—	—
	200	14	12537	12599	12453	14	—49.2	—45.1	—51.7	—	—
	150	13	14376	14464	14279	13	—61.6	—55.2	—64.9	—	—
	100	11	16792	16990	16680	11	—73.2	—66.1	—78.9	—	—
	70	6	18965	19170	18850	6	—66.0	—62.8	—69.8	—	—
	60	6	19892	20114	19760	6	—61.9	—58.9	—65.0	—	—
	50	4	20972	20994	20932	4	—59.8	—58.1	—61.0	—	—
	40	3	22378	22407	22349	3	—54.2	—50.5	—57.0	—	—
	30	2	24182	24208	24156	2	—54.6	—54.4	—54.7	—	—
	20	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—
Helwan 0000 U.T.	Surface	31	*993m.b.	*995m.b.	*989m.b.	31	24.4	29.3	22.0	31	17.8
	1000	31	78	95	39	—	—	—	—	—	—
	850	31	1491	1510	1465	31	21.2	26.1	14.5	30	0.9
	700	31	3145	3182	3105	31	12.3	17.3	8.5	31	— 9.2
	600	31	4418	4458	4370	31	4.3	8.0	— 0.2	30	—15.5
	500	31	5878	5934	5826	31	— 3.4	2.4	—12.0	30	—23.8
	400	31	7614	7676	7522	31	—12.9	— 9.7	—19.8	30	—33.4
	300	31	9747	9808	9648	31	—27.6	—24.8	—30.0	30	—44.9
	250	29	11032	11093	10930	29	—37.7	—35.5	—40.9	28	—50.8
	200	29	12542	12699	12436	29	—48.5	—42.2	—50.8	24	—61.7
	150	29	14374	14631	14133	29	—62.0	—53.8	—69.9	2	—72.7
	100	26	16756	16895	16563	26	—75.5	—69.5	—78.9	—	—
	70	21	18869	18960	18680	21	—70.5	—65.3	—77.5	—	—
	60	18	19791	19960	19692	18	—65.9	—62.0	—72.6	—	—
	50	16	20891	20961	20725	16	—60.0	—57.7	—63.8	—	—
	40	13	22296	22405	22058	13	—56.6	—53.4	—62.5	—	—
	30	11	24128	24205	24051	11	—52.2	—47.7	—55.0	—	—
	20	3	20833	20670	20771	3	—46.3	—45.0	—47.2	—	—
	10	2	31494	31525	31463	2	—39.0	—38.5	—39.6	—	—
Aswan 0000 U.T.	Surface	29	983m.b.*	986m.b.*	981m.b.*	29	29.6	34.0	26.5	29	6 3
	1000	29	46	85	23	—	—	—	—	—	—
	850	28	1486	1503	1471	28	25.6	30.0	20.4	28	2.1
	700	28	3157	3193	3121	28	13.3	20.4	6.2	27	— 4.1
	600	28	4432	4481	4371	28	3.5	6.8	— 4.3	28	—10.8
	500	27	5887	5941	5820	27	— 5.1	0.2	—10.7	27	—19.8
	400	27	7622	7659	7554	27	—12.4	—10.0	—15.3	27	—31.4
	300	27	9758	9813	9676	27	—27.8	—25.5	—31.0	26	—42.9
	250	27	11043	11111	10959	27	—37.7	—35.6	—40.3	26	—51.9
	200	27	12545	12630	12459	27	—49.6	—47.2	—52.3	24	—61.8
	150	27	14373	14480	14260	27	—63.6	—61.6	—67.8	—	—
	100	26	16778	16906	16643	26	—77.2	—74.2	—78.9	—	—
	70	25	18861	19000	18738	25	—71.2	—64.8	—81.6	—	—
	60	16	19785	19897	19661	16	—64.9	—59.9	—67.6	—	—
	50	16	20912	21054	20779	16	—60.0	—56.2	—64.4	—	—
	40	14	22315	22517	22194	14	—57.3	—54.6	—61.3	—	—
	30	13	24182	24451	24038	13	—51.5	—47.5	—55·4	—	—
	20	6	26795	26860	26732	6	—47.4	—41.5	—51.6	—	—
	10	—	—	—	—	—	—		—	—	—

N = The number of cases the element has been observed during the month.

* The atmospheric pressure corrected to the elevation of the radiosonde station.

UPPER AIR CLIMATOLOGICAL DATA

Table B 1 (*cont'l.*).—MONTHLY MEAN AND MONTHLY ABSOLUTE HIGHER AND LOWER VALUES OF ALTITUDE, AIR TEMPERATURE AND DEW POINT AT STANDARD AND SELECTED PRESSURE SURFACES

JULY — 1968

Station	Pressure Surface Millibar	Altitude of Pressure Surface (gpm)				Temperature (°C)				Dew Point (°C)	
		N	Mean	Highest	Lowest	N	Mean	Highest	Lowest	N	Mean
Helwan 1200 U.T.	Surface	31	992m.b.*	994m.b.*	988m.b.*	31	34.3	39.7	31.3	23	11.1
	1000	31	65	89	34	—	—	—	—	—	—
	850	31	1503	1531	1469	31	22.8	28.6	16.9	30	0.5
	700	31	3162	3198	3097	31	12.7	18.2	9.3	29	— 9.9
	600	30	4437	4489	4366	30	5.0	9.0	0.2	26	—16.4
	500	30	5904	5973	5844	30	— 2.8	3.0	—10.7	29	—24.3
	400	29	7644	7726	7544	29	—12.3	— 7.6	—18.3	28	—32.1
	300	29	9785	9888	9631	29	—26.6	—23.0	—29.0	28	—26.6
	250	28	11074	11188	10958	28	—37.4	—32.6	—39.5	26	—50.3
	200	26	12583	12709	12477	26	—45.9	—44.3	—50.5	23	—62.1
	150	26	14418	14561	14333	26	—61.1	—57.2	—65.5	3	—70.4
	100	25	16867	17021	16746	25	—73.7	—70.8	—76.6	—	—
	70	21	18942	19150	18710	21	—70.8	—65.9	—85.5	—	—
	60	16	19879	20059	19627	16	—63.5	—59.6	—72.7	—	—
	50	15	21044	21254	20921	15	—57.3	—54.7	—60.3	—	—
	40	11	22446	22735	22165	11	—52.9	—50.5	—55.6	—	—
	30	10	24333	24439	24218	10	—48.5	—46.5	—51.2	—	—
	20	4	27066	27146	26943	4	—42.6	—41.0	—45.0	—	—
	10	—	—	—	—	—	—	—	—	—	—

N = The number of cases the element has been observed during the month.

* The atmospheric pressure corrected to the elevation of the radiosonde stations.

Note.—Climatological upper air data for Mersa Matruh and Aswan at 1200 U.T. are missing since number of release of radiosonde sets at these stations are less than the permissible number needed for calculating or processing monthly values.

Table B 2.—MEAN AND EXTREME VALUES OF THE FREEZING LEVEL AND THE TROPOPAUSE. THE HIGHEST WIND SPEED IN THE UPPER AIR

JULY — 1968

	Station	Freezing Level									First Tropopause									Highest wind speed			
		Mean			Highest			Lowest			Mean			Highest			Lowest						
		Altitude (gpm)	Pressure (mb.)	Dew point (°C)	Altitude (gpm)	Pressure (mb.)	Dew point (°C)	Altitude (gpm)	Pressure (mb.)	Dew point (°C)	Altitude (gpm)	Pressure (mb.)	Temperature (°C)	Altitude (gpm)	Pressure (mb.)	Temperature (°C)	Altitude (gpm)	Pressure (mb.)	Temperature (°C)	Altitude (gpm)	Pressure (mb.)	Direction (000—360)	Speed in Knots
0000 U.T.		(N)	(N)	(N)							(N)	(N)	(N)										
	Mersa Matruh (A)	5178 (18)	542 (18)	— —	5820	508	—	4270	549	—	16611 (7)	104 (7)	-71.3 (7)	17300	91	-72.5	15420	130	-67.3	7600	—	265	95
	Helwan	5130 (31)	551 (31)	-19.2 (30)	5960	496	-18.4	3730	653	-10.7	16890 (21)	99 (21)	-76.3 (21)	17860	83	-78.8	16130	113	-73.0	21030	49	080	77
	Aswan . . . (A)	4949 (28)	562 (28)	-12.9 (28)	5700	512	-25.1	3980	632	-11.0	16089 (25)	101 (25)	-76.6 (25)	17910	82	-80.8	15830	120	-71.3	17385	90	110	80
1200 U.T.		(N)	(N)	(N)							(N)	(N)	(N)										
	Mersa Matruh (A)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	Helwan	5433 (30)	530 (30)	-20.8 (28)	6480	468	-22.2	4400	604	-11.0	16736 (26)	101 (26)	-77.1 (26)	18280	80	-74.9	15390	127	-69.3	18120	80	115	72
	Aswan . . . (A)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

N = The number of cases the element has been observed during the month.

Table B 3.—NUMBER OF OCCURRENCES OF WIND DIRECTION WITHIN SPECIFIED RANGES AND THE MEAN SCALAR WIND SPEED AT THE STANDARD AND SELECTED PRESSURE SURFACES.

MERSA MATRUH (A) JULY — 1968

Time	Pressure Surface (Millibar.)	Wind between specified ranges of direction (000—360)°																						Number of Calm winds	Total Number of Observations (T N)	Mean Scalar wind Speed (Knots)
		345 / 014		015 / 044		045 / 074		075 / 104		105 / 134		135 / 164		165 / 164		195 / 224		225 / 254		255 / 284		285 / 314		315 / 344				
		N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m			
0000 U.T.	Surface	0	—	0	—	0	—	0	—	0	—	0	—	1	8	0	—	1	8	11	8	4	10	4	15	0	21	10
	1000	1	12	0	—	0	—	1	7	0	—	0	—	0	—	0	—	0	—	1	14	12	14	5	17	0	20	19
	850	3	14	4	17	1	13	0	—	0	—	0	—	0	—	0	—	0	—	1	18	5	14	4	12	0	20	14
	700	2	18	5	12	1	14	0	—	0	—	0	—	1	7	0	—	2	6	3	10	5	12	1	12	0	20	12
	600	3	10	4	13	1	7	1	6	0	—	0	—	0	—	1	13	1	6	3	23	1	7	3	10	0	18	12
	500	3	8	4	19	0	—	0	—	0	—	0	—	0	—	0	—	1	25	4	18	3	12	2	12	0	17	15
	400	2	13	2	16	0	—	0	—	1	13	1	15	2	6	1	21	4	15	2	40	1	14	1	9	0	17	17
	300	0	—	1	10	0	—	0	—	0	—	2	8	2	11	3	27	2	24	1	7	0	—	3	11	0	14	16
	250	0	—	0	—	0	—	0	—	0	—	2	8	1	14	3	30	4	26	0	—	0	—	1	22	1	12	20
	200	1	7	0	—	0	—	0	—	0	—	1	9	1	37	3	25	2	22	1	44	1	47	0	—	1	11	24
	150	0	—	0	—	0	—	0	—	0	—	2	18	3	29	1	16	0	—	2	23	2	32	0	—	0	10	25
	100	0	—	0	—	0	—	0	—	0	—	2	30	0	—	2	12	1	21	0	—	2	26	0	—	0	7	22
	70	0	—	0	—	0	—	1	6	0	—	2	8	0	—	0	—	0	—	0	—	0	—	1	7	0	4	7
	60	0	—	0	—	1	21	2	8	1	4	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	4	10
	50	0	—	0	—	0	—	2	6	0	—	0	—	0	—	0	—	0	—	0	—	1	8	0	—	0	3	7
	40	0	—	0	—	0	—	0	—	0	—	1	8	0	—	0	—	0	—	0	—	0	—	0	—	0	1	8
	30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

N = number of cases the wind has been observed for all directions during the month.

TN= The number of cases the elemnet has been observed during the month.

Ta B 3.(contd.)—NUMBER OF OCCURRENCES OF WIND DIRECTION WITHIN SPECIFIED RANGES AND THE MEAN SCALAR WIND SPEED AT THE STANDARD AND SELECTED PRESSURE SURFACES.

HELWAN — JULY 1968

Time	Pressure Surface (Millibar)	Wind between specified ranges of direction (000—360)°																								Number of Calm winds	Total Number of Observations (TN)	Mean Scalar wind Speed (Knots)
		345 / 014		015 / 044		045 / 074		075 / 104		105 / 134		135 / 164		165 / 194		195 / 224		225 / 254		255 / 284		285 / 314		315 / 344				
		N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m			
0000 U.T.	Surface	16	8	2	6	3	10	0	—	1	3	0	—	0	—	0	—	0	—	0	—	1	7	8	8	0	31	8
	1000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	850	5	11	5	10	3	14	0	—	1	17	0	—	0	—	0	—	1	18	4	7	4	13	8	12	0	31	12
	700	4	11	2	17	1	18	0	—	2	9	3	14	6	18	3	12	1	12	0	—	6	12	3	16	0	31	14
	600	2	9	1	21	1	26	0	—	0	—	2	10	10	19	7	20	1	18	3	12	3	9	1	10	0	31	16
	500	0	—	3	16	2	20	2	22	0	—	1	16	4	24	1	43	10	19	4	19	3	16	1	12	0	31	20
	400	1	14	2	14	1	27	0	—	2	14	3	11	2	14	2	22	10	25	5	22	0	—	2	11	0	30	20
	300	0	—	0	—	0	—	1	24	1	9	3	10	3	14	4	18	13	27	5	20	0	—	0	—	0	30	21
	250	0	—	0	—	0	—	1	17	0	—	3	15	2	21	8	20	8	29	5	28	1	13	0	—	0	28	23
	200	0	—	0	—	0	—	0	—	2	27	2	18	6	23	4	36	7	29	7	27	0	—	0	—	0	28	27
	150	0	—	0	—	0	—	0	—	1	29	3	29	6	24	6	34	2	28	2	22	1	12	0	—	0	21	27
	100	0	—	0	—	1	11	0	—	3	36	3	21	3	23	1	13	0	—	1	11	0	—	0	—	0	12	24
	70	0	—	0	—	2	12	3	23	3	17	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	8	18
	60	0	—	0	—	0	—	5	32	2	22	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	7	29
	50	0	—	0	—	1	20	4	42	1	46	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	6	39
	40	0	—	0	—	2	22	3	38	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	5	34
	30	0	—	0	—	0	—	1	28	1	26	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	2	27
	20	0	—	0	—	0	—	0	—	2	38	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	2	38
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1200 U.T.	Surface	9	12	3	11	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	10	3	10	14	11	0	31	11
	1000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	850	5	15	5	12	5	9	2	9	0	—	1	13	1	8	0	—	1	3	0	—	4	10	7	15	0	31	12
	700	0	—	1	7	2	14	0	—	0	—	2	15	6	19	7	21	5	9	4	10	3	13	1	7	0	31	15
	600	0	—	1	21	2	14	0	—	1	16	0	—	9	22	5	30	5	16	4	11	2	6	1	15	0	30	19
	500	1	20	0	—	3	12	1	10	1	33	3	14	4	26	4	24	4	24	7	17	1	6	1	8	0	30	19
	400	1	11	0	—	1	14	2	17	1	12	2	22	2	16	2	8	7	22	7	22	3	22	1	19	0	29	19
	300	0	—	0	—	1	9	2	12	1	9	2	10	3	24	5	17	9	23	4	28	1	11	0	—	0	28	20
	250	0	—	1	19	0	—	0	—	2	18	2	20	4	22	5	24	9	27	3	30	0	—	0	—	0	26	24
	200	0	—	0	—	0	—	1	24	1	22	4	18	6	20	6	31	4	25	3	21	1	47	0	—	0	26	22
	150	0	—	1	25	1	18	0	—	3	25	2	18	2	30	8	27	2	23	4	20	0	—	0	—	0	23	24
	100	0	—	0	—	1	27	0	—	2	28	5	25	4	15	2	28	1	23	0	—	0	—	1	8	0	16	22
	70	1	2	0	—	0	—	1	30	2	37	1	10	0	—	0	—	0	—	1	5	0	—	0	—	0	6	20
	60	0	—	0	—	0	—	1	40	3	28	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	4	31
	50	0	—	0	—	0	—	2	36	1	56	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	3	42
	40	0	—	0	—	0	—	1	28	1	40	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	2	34
	30	0	—	0	—	0	—	1	26	1	31	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	2	28
	20	0	—	0	—	0	—	1	18	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	1	18
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

N — The number of cases the wind has been observed during the month.

TN — The total number of cases the wind has been observed for all directions during the month.

Table B 3.(*contd*)—NUMBER OF OCCURRENCES OF WIND DIRECTION WITHIN SPECIFIED RANGES AND THE MEAN SCALAR WIND SPEED AT THE STANDARD AND SELECTED PRESSURE SURFACES.

ASWAN (A) — JULY 1968

Time	Pressure Surface (Millibar.)	Wind between specified ranges of direction (000–360)°																								Number of Calm winds	Total Number of Observations (T N)	Mean Scalar wind Speed (Knots)
		345 / 014		015 / 044		045 / 074		075 / 104		105 / 134		135 / 164		165 / 194		195 / 224		225 / 254		255 / 284		285 / 314		315 / 344				
		N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m			
0000 U.T.	Surface	6	10	1	7	0	—	1	3	0	—	1	1	0	—	0	—	1	7	0	—	10	12	7	11	2	29	9
	1000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	850	2	10	1	3	1	12	0	—	0	—	1	5	0	—	1	4	5	9	3	11	7	12	4	12	0	25	10
	700	0	—	1	9	0	—	0	—	1	5	8	8	2	6	4	16	2	16	4	15	2	12	0	—	0	24	11
	600	0	—	0	—	0	—	0	—	3	5	6	12	3	14	6	15	1	26	1	16	1	21	3	10	0	24	13
	500	0	—	2	15	0	—	2	6	3	9	2	10	4	13	2	16	3	6	4	10	1	11	0	—	0	23	10
	400	2	14	0	—	5	15	0	—	3	13	4	16	4	11	2	12	0	—	2	22	0	—	1	10	0	23	15
	300	0	—	1	11	1	23	4	16	5	20	5	12	3	9	3	12	1	19	0	—	0	—	0	—	0	23	15
	250	0	—	0	—	2	11	5	20	9	20	5	13	0	—	1	13	1	8	0	—	0	—	0	—	0	23	17
	200	0	—	0	—	0	—	7	26	9	27	5	25	0	—	1	2	0	—	0	—	0	—	0	—	0	22	25
	150	0	—	0	—	1	20	5	35	12	33	4	32	0	—	0	—	0	—	0	—	0	—	0	—	0	22	33
	100	0	—	0	—	0	—	9	46	12	47	1	18	0	—	0	—	0	—	0	—	0	—	0	—	0	22	45
	70	0	—	0	—	2	29	9	34	4	42	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	15	35
	60	0	—	0	—	1	34	10	41	2	39	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	13	40
	50	0	—	0	—	0	—	11	36	1	38	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	12	36
	40	0	—	0	—	0	—	9	47	1	35	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	10	46
	30	0	—	0	—	0	—	4	43	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	4	43
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

N = The number of cases the element has been observed during the month.

TN = The total number of cases the wind has been observed for all directions during the month.

REVIEW OF AGRO-METEOROLOGICAL STATIONS

EL KASR — JULY 1968

This month was slightly warmer than normal. The daily maximum air temperatures were above normal during all the month. The highest maximum air temperature for the month was 30.8°C and was recorded on both the 3rd and 20 th.

The extreme maximum soil temperatures were higher than the corresponding values of last July at all depths between 2 & 100 cms. and the differences ranged between 0.8°C & 1.1°C. The extreme minimum soil temperatures were also higher than the corresponding values of last July at all depths between 2 & 100 cms. and the differences ranged between 0.8°C at 2 cms. and 1.8°C at 10 cms.

The mean daily Pan evaporation was 0.79 mm. less than the corresponding value of July 1967. The total actual duration of bright sunshine was 5.9 hours less than the corresponding value of July 1967.

TAHRIR — JULY 1968

This month was slightly warmer than last July. The month was characterized by a short heat wave on the 1st and a prolonged wave which prevailed from the 10th till the 17th, yielding the highest maximum air temperature for the month (38.8°C) on the 12th and the highest minimum air temperature (24.0°C) on the 17th.

The extreme maximum soil temperatures were higher than the corresponding values of last July at all depths between 2 & 100 cms. with differences ranging between 3.1°C at 5 cms. and 0.5°C at 100 cms. The extreme minimum soil temperatures were higher than the corresponding values of last July at 2 cms. depth and also at depths between 20 and 100 cms. with differences ranging between 0.1°C & 0.7°C. At 5 and 10 cms. depths the extreme soil minima were lower than last July and the differences were 1.2°C & 0.7°C respectively.

The mean daily Pan evaporation was 0.29 mm. less than the corresponding value of July 1967. The total actual duration of bright sunshine was 7.7 hours less than the corresponding value of July 1967.

BAHTIM — JULY 1968

This month was slightly warmer than last July. The month was mainly characterized by a heat wave which prevailed from the 10th till the 16th yielding the highest maximum air temperature for the month (38.4°C) on the 12th.

The extreme maximum soil temperatures were higher than the corresponding values of last July at all depths between 2 & 100 cms. and the differences ranged between 1.0°C at 2 cms. and 5.6°C at 5 cms. The extreme minimum soil temperature at 2 cms. depth was the same as last July. At all other depths between 5 & 100 cms. the values were higher than last July and the differences ranged between 1.1°C at 10 cms. and 2.3°C at 100 cms.

The mean daily Pan evaporation was 0.27 mm. less than the corresponding value of July 1967. The total actual duration of bright sunshine was 9.0 hours less than the corresponding value of July 1967.

KHARGA — JULY 1968

This month was slightly warmer than normal. The month was characterized by a short heat wave on the 4th and 5th and a prolonged wave which prevailed from the 11th till the 19th, yielding the highest maximum air temperature for the month (44.4°C) on the 16th and the highest minimum air temperature (31.4°C) on the 14th.

The extreme maximum soil temperatures were higher than the corresponding values of last July at all depths between 2 & 100 cms. and the differences ranged between 0.1°C at 5 cms. and 3.0°C at 10 cms. The extreme minimum soil temperatures were also higher than the corresponding values of last July at all depths between 2 & 100 cms and the differences ranged between 0.4°C & 1.0°C.

The mean daily Pan evaporation was 1.93 mms. less than the corresponding value of July 1967. The total actual duration of bright sunshine was 18.7 hours less than the corresponding value of July 1967.

Note.—During this month records of the mercury in steel hygrograph were not available at El Kasr, Tahrir, Bahtim & Kharga centres. For these centres the mean of day of air temperature, relative humidity and vapour pressure are calculated according to the following equations :

Mean of day of air temperature

= [(0600+1200+1800) U.T. dry bulb observations + minimum air temperature] ÷ 4.

Mean of day of relative humidity

= (0600+1800) U.T. observations ÷ 2.

Mean of day of vapour pressure

= (0600+1200+1800) U.T. observation ÷ 3.

Table C 1.—AIR TEMPERATURE AT 1½ METRES ABOVE GROUND

JULY — 1968

STATION	Air Temperature (°C)					Mean Duration in hours of daily air temperature above the following values										
	Mean Max.	Mean Min.	Mean of the day	Night time mean	Day time mean	-5°C	0°C	5°C	10°C	15°C	20°C	25°C	30°C	35°C	40°C	45°C
El Kasr	29.6	21.2	25.6	—	27.3	—	—	—	—	—	—	—	—	—	—	—
Tahrir	34.9	20.8	26.9	—	29.9	—	—	—	—	—	—	—	—	—	—	—
Bahtim	34.5	19.5	26.4	—	29.9	—	—	—	—	—	—	—	—	—	—	—
Kharga	40.0	24.9	33.0	29.9	35.7	—	—	—	—	—	—	—	—	—	—	—

Table C 2.—EXTREME VALUES OF AIR TEMPERATURE AT 1½ METRES ABOVE GROUND, ABSOLUTE MINIMUM AIR TEMPERATURE AT 5cms ABOVE GROUND OVER DIFFERENT FIELDS

JULY — 1968

STATION	Max. Temp. at 1½ metres				Min. Temp. at 1½ metres				Min. Temp. at 5 cms. above			
	Highest		Lowest		Highest		Lowest		Dry Soil		Grass	
	Value	Date	Value	Date	Value	Date	Value	Date	Value	Date	Value	Date
El Kasr	30.8	3·20	28.5	5,6	24.8	16	18.4	24	16.2	28	—	—
Tahrir	38.8	12	32.4	21·24	21.0	17	18.3	3	16.9	3	—	—
Bahtim	38.4	12	31.7	31	22.3	15·17	15.8	29	13.7	29	—	—
Kharga	44.4	16	37.4	24	31.4	14	20.3	2	18.2	2	—	—

Table C 3.—(SOLAR + SKY) RADIATION, DURATION OF BRIGHT SUNSHINE, RELATIVE HUMIDITY & VAPOUR PRESSURE AT 1½ METRES ABOVE GROUND, EVPORATION & RAINFALL

JULY — 1968

STATION	Solar+Sky Radiation gm. cal/cm²	Duration of Bright Sunshine (hours)			Relative Humidity %				Vapour Pressure (mms)						Evaporation(mms)		Rainfall (mms)		
		Total Actual	Total Possible monthly	%	Mean of day	1200 U.T.	Lowest	Date	Mean of day	1200 UT	Highest	Date	Lowest	Date	Piche	Pan class (A)	Total Amount monthly	Max. fall in one day	Date
El Kasr.	577.4	386.8	433.7	89	78	69	43	3	19.5	20.4	25.1	14	13.6	3	6.5	11.40	0.0	0.0	—
Tahrir	632.8	381.2	430.9	88	76	50	38	12	19.8	19.4	24.9	16	15.2	4	9.1	10.77	0.0	0.0	—
Bahtim	654.3	356.8	429.5	83	69	39	25	12	16.9	15.1	22.9	16	10.6	1	10.4	10.68	0.0	0.0	—
Kharga	570.6	365.1	418.9	87	23	16	9	5	8.2	8.3	13.3	23	5.1	1	26.1	20.03	0.0	0.0	—

Table C 4.—EXTREME SOIL TEMPERATURE AT DIFFERENT DEPTHS (cms) IN DIFFERENT FIELDS

JULY — 1968

STATION	Highest (H) Lowest (L)	Extreme soil temperature (°C) in dry field at different depths (cms.)								Extreme soil temperature (°C) in grass field at different depths (cms.)							
		2	5	10	20	50	100	200	300	2	5	10	20	50	100	200	300
El Kasr . . .	H	44.6	40.2	35.6	30.8	29.4	27.4	23.5	—	—	—	—	—	—	—	—	—
	L	26.9	25.4	25.2	27.3	28.0	26.3	20.4	—	—	—	—	—	—	—	—	—
Tahrir	H	56.4	50.2	44.0	38.4	33.8	31.9	29.6	27.9	—	—	—	—	—	—	—	—
	L	28.5	27.2	27.4	30.7	31.5	30.5	28.1	26.7	—	—	—	—	—	—	—	—
Bahtim. . . .	H	55.4	47.7	40.6	35.3	32.2	29.8	26.7	24.7	—	—	—	—	—	—	—	—
	L	29.0	29.4	29.5	31.7	30.7	28.4	25.2	23.6	—	—	—	—	—	—	—	—
Kharga	H	58.4	51.9	44.4	39.2	36.2	33.4	30.9	28.9	—	—	—	—	—	—	—	—
	L	23.0	26.2	30.5	33.7	33.9	32.3	29.4	27.9	—	—	—	—	—	—	—	—

Table C 5.—SURFACE WIND

JULY — 1968

STATION	Wind Speed m/sec at 1½ metres			Days with surface wind speed at 10 metres							Max. Gust (knots at 10 metres)	
	Mean of the day	Night time mean	Day time mean	≥10 knots	≥15 knots	≥20 konts	≥25 knots	≥30 knots	≥35 knots	≥40 knots	value	Date
El Kasr . . .	4.4	3.4	5.6	—	—	—	—	—	—	—	—	—
Tahrir	2.6	1.8	3.4	31	14	0	0	0	0	0	27	31
Bahtim. . . .	2.4	1.5	3.5	29	7	0	0	0	0	0	24	7
Kharga	3.5	2.4	4.7	30	25	13	1	0	0	0	33	15

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THE ARAB REPUBLIC OF EGYPT

MONTHLY WEATHER REPORT

VOLUME 11 NUMBER 8

AUGUST, 1968

U.D.C. 551. 506.1 (62)

THE EGYPTIAN METEOROLOGICAL AUTHORITY
CAIRO

PUBLICATIONS OF THE METEOROLOGICAL AUTHORITY OF THE ARAB REPUBLIC OF EGYPT — CAIRO

In fulfilment of its duties, the Meteorological Authority of Egypt issues serveral reports and publications on weather, climate and agrometeoro logy. The principal publications are described on this page.

Orders for publications should be addressed to :

"Chairman of the Board of Directors, Meteor ological Authority, Kubri-el-Qubbeh — CAIRO".

THE DAILY WEATHER REPORT

This report is issued daily by the Meteorological Authority since the year 1901. It includes surface and upper air observations carried out by the relevant networks of the Republic at the principal hours of observations.

As from January 1968, this report was revised to include a condensed representative selection of surface and upper air observations besides the 1200 U.T. surface & 500 mb charts.

As from 1st January 1972, the daily weather Report will not be issued or distributed because it does not serve no longer any good purpose as it used to be in the past.

THE MONTHLY WEATHER REPORT

First issued in 1909, the Monthly Weather Report served to give a brief summary of the weather conditions that prevailed over Egypt during the month, with a table showing the mean values for few meteorological elements and their deviations from the normal values. From 1954 to 1957 this report was in a rapid state of development and extension resulting into a voluminous report on January 1958 giving surface, upper air, and agro-meteorological data for Egypt.

As from January 1964, the Monthly Weather Report was pressed to give climatological data for a representative selection of synoptic stations.

THE AGRO-METFOROLOGICAL ABRIDGED MONTHLY REPORT

Gives a review of weather experienced in the agro-meteorological stations of Egypt as well as monthly values of certain elements.

THE ANNUAL REPORT

This report gives annual values and statistics for the various meteorological elements, together with a summary of the weather conditions that prevailed during all months of the year.

CLIMATOLOGICAL NORMALS FOR EGYPT

A voluminous edition was issued in march 1968 which brings normals and mean values up till 1960.

METEOROLOGICAL RESEARCH BULLETIN

First issued in January 1969 on a bi-annual basis. It includes research works carried out by members of staff of "The Meteorological Institute for Research and Training" and the Operational Divisions of Meteorological Authority.

TECHNICAL NOTES

As from October 1970, the Meteorological Authority started to issue a new series of publications in the form of Technical Notes (non periodical) on subjects related to studies and applications of meteorology in different fields for the benefit of personnel working in these fields.

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NOTICE

As from 25th November 1971 . the name of the (Meteorological Department) has been changed to be the (Meteorological Authority).

CONTENTS

Note : For explanatory notes on the tables please refer to Volume 11, Number 1 (January 1968).

GENERAL SUMMARY OF WEATHER CONDITIONS

AUGUST 1968

Normal summer in general, excessively hot & dry between 8th & 15th.
Early morning low stratus & mist over Delta, Canal & Cairo areas.

GENERAL DESCRIPTION OF WEATHER

The prevailing weather during this month was generally rather mild & humid in the northern parts, hot & rather humid in the central parts, excessively hot & dry in the southern parts. The month was intervened with two heat waves round the periods (*8th*-*15th*) & (*27th* - *29th*). The first heat wave was excessive all over the Republic and yielded records for maximum air temperature at Sallum & Mersa Matruh. The second heat wave was of moderate intensity

Early morning low clouds developed frequently with few occasions of mist over Lower Egypt & Cairo areas. Scattered light rising sand was reported during several days over the Western Desert & Red Sea districts.

PRESSURE DISTRIBUTION

The most outstanding features of pressure distribution over the surface maps during this month were :

- The Atlantic anticyclone and its southeast extension through the Mediterranean.
- Deep low pressure systems through North Europe, attached sometimes with secondaries through Central Europe.
- Local anticyclones moving through Europe.
- A ridge of high pressure over Central & East Mediterranean.
- The complex monsoon low pressure system over the Arabian Gulf, Arabia & North Sudan.

The barometric pressure over Egypt during this month showed five falls round the periods : (*4th* - *7th*), (*9th* - *11th*), (*12th*-*14th*), (*18th* - *20th*) & (*24th* - *27th*),

These pressure falls were caused by the slight deepening and northwestward elongation of the Iraq monsoon trough through Asia Minor. These elongations generally associated the transit of secondary depressions or troughs north of the Black Sea area.

During the other periods of the month, high pressure over Central Mediterranean moved slightly eastwards, and the barometric pressure over Egypt was above normal.

The most important features of pressure distribution over the upper air charts during this month were :

- Two deep upper lows pressure systems over North Atlantic and North Urasia.
- Secondary upper low or troughs over middle latitudes between 30° & 45°N traversing East Mediterranean and north of Egypt on the 2nd, 6th, 16th, 22nd & 30th.
- Upper high pressure system over the subtropical latitudes south of 30° N.

SURFACE WIND

The prevailing surface winds during this month were generally light to moderate and blew from directions between NE & NW. Winds became fresh to strong during several days over scattered parts in the Mediterranean (Western parts), the Western Desert, Upper Egypt & Red Sea districts. Calms were frequent most of night and early morning intervals in scattered localities.

TEMPERATURE

Maximum air temperature experienced appreciable rises above normal during the first heat wave (*8th* - *15th*) and moderate rises during the second heat wave (*27th*-*29th*). During rest of the month, maximum air temperature was subnormal. Maximum air temperature values ranged most days of the month between 29°C & 34°C in the northern parts, between 32°C & 38°C in the central parts, between 38°C & 44°C in the southern parts. It is worthy to mention that maximum air temperatures reported on the peak of the first heat wave records at Sallum (47°C) and Mersa Matruh (44°C).

The absolute maximum air temperature was 47.2°C reported at Sallum on the 13*th*.

Minimum air temperature oscillated slightly round normal during most days of the month. Minimum air temperature values ranged generally between 19°C & 24°C in the northern and central parts, between 23°C & 28°C in the southern parts.

The absolute minimum air temperature was 15.6°C reported at Beni Suef on the 25th.

PRECIPITATION

As usual, no rain was reported during this month all over the Republic,

Cairo, December 1971

Chairman (M. F. TAHA)

Board of Directors

Table A 1.—MONTHLY VALUES OF THE ATMOSPHERIC PRESSURE, AIR TEMPERATURE RELATIVE HUMIDITY, BRIGHT SUNSHINE DURATION & PICHE EVAPORATION

AUGUST—1968

STATION	Atmospheric Pressure (mbs) M.S.L.		Air Temperature °C								Relative Humidity %		Bright Sunshine Duration (Hours)			Piche Evaporation mms.
			Maximum		Minimum			Dry Bulb		Wet Bulb						
	Mean	D.F. Normal or Average	(A) Mean	D.F. Normal or Average	(B) Mean	D.F. Normal or Average	$\frac{A+B}{2}$	Mean	D.F. Normal or Average	Mean	D.F. Normal or Average	Mean	D.F. Normal or Average	Total Actual	Total Possible	%	Mean
Sallum	1012.4	+2.1	32.7	+1.6	22.1	+0.5	27.4	26.7	+0.4	21.2	—0.7	69	—7	—	—	—	9.0
Mersa Matruh (A)	1012.0	+1.9	30.8	+0.9	20.9	—0.1	25.8	25.7	+0.2	21.2	—0.6	66	—6	—	—	—	9.9
Alexandria (A)	1011.5	+2.7	31.5	+0.9	22.4	—0.4	26.9	26.2	—0.5	21.8	—1.2	66	—6	367.4	411.1	89	7.2
Port Said (A)	1010.0	+2.0	29.3	—1.5	23.8	—1.1	26.5	—	—	—	—	—	—	373.6	411.1	91	7.0
El Arish	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ghazza	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tanta	1010.5	+2.7	34.0	—0.6	19.8	+0.3	26.9	26.1	—0.8	21.5	—0.5	65	+1	366.0	410.6	89	5.9
Cairo (A)	1010.3	+1.8	34.2	—0.5	21.4	—0.4	27.8	27.4	—0.3	21.0	—0.8	54	—2	—	—	—	18.6
Fayoum	—	—	36.8	+0.3	20.6	—1.0	28.7	—	—	—	—	—	—	—	—	—	8.7
Minya (A)	1009.2	+1.8	36.1	—0.3	20.0	—0.5	28.0	28.2	—0.1	20.6	—0.2	47	—3	374.8	406.7	92	14.1
Assyout (A)	1008.2	+1.2	36.4	—0.5	21.4	—1.0	28.9	28.8	—1.6	20.0	+0.2	41	+6	—	—	—	17.7
Luxor (A)	1006.8	+1.7	41.2	+0.2	23.3	—0.3	32.2	32.3	—0.6	20.4	+0.4	29	+3	—	—	—	13.6
Aswan (A)	1006.2	+1.1	41.3	0.0	25.2	0.0	33.2	33.2	—0.6	18.2	—0.2	16	0	—	—	—	28.7
Siwa	1011.3	+1.5	38.0	+0.3	20.4	—0.3	29.2	29.6	—0.2	20.2	+0.5	38	+2	—	—	—	14.8
Bahariya	1010.1	+1.9	37.4	+0.6	21.4	+0.6	29.4	29.6	0.0	19.5	—0.3	34	—2	—	—	—	12.5
Farafra	—	—	37.8	+0.3	21.6	+0.5	29.7	—	—	—	—	—	—	—	—	—	20.3
Dakhla	1009.3	—2.4	38.1	—0.7	22.8	0.0	30.4	30.6	—0.2	18.2	+0.3	24	+1	—	—	—	24.2
Kharga	1008.2	+1.6	39.4	+0.1	24.6	+1.8	32.0	32.3	+0.4	18.6	—0.5	21	—5	375.0	402.7	93	25.8
Tor	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hurghada	1006.4	+1.9	32.6	—0.6	24.6	—0.6	28.6	29.6	—0.5	21.1	—1.0	43	—5	—	—	—	22.6
Ouseir	1007.5	+2.5	32.5	—1.2	26.0	—0.9	29.3	29.5	—0.8	21.9	—0.5	49	+2	—	—	—	19.1

Table A 2.—MAXIMUM AND MINIMUM AIR TEMPERATURE

AUGUST — 1968

Station	Maximum Temperature °C									Grass Min. Temp.		Minimum Temperature							
	Highest	Date	Lowest	Date	No. of Days with Max-Temp.					Mean	D. From Normal	Highest	Date	Lowest	Date	No. of Days with Min. Temp.			
					>25	>30	>35	>40	>45							<10	<5	<0	<-5
Sallum	47.2	13	27.8	21	31	21	7	3	1	21.9	—	27.0	13	19.3	3	0	0	0	0
Mersa Matruh	44.2	13	28.3	2,25	31	10	3	1	0	—	—	24.5	14	18.0	4	0	0	0	0
Alexandria (A)	40.0	14	27.8	6	31	23	3	0	0	—	—	24.6	1	18.6	5	0	0	0	0
Port Said (A)	35.0	14	28.0	23	31	17	0	0	0	23.1	—	25.8	15	22.3	2	0	0	0	0
El Arish	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ghazza	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tanta	42.5	14	31.2	24	31	31	8	1	0	—	—	22.2	14	18.4	10	0	0	0	0
Cairo (A)	43.4	14	30.6	22	31	31	10	1	0	—	—	25.0	14	19.6	25	0	0	0	0
Fayoum	44.2	14	32.8	22	31	31	21	5	0	18.8	—	23.4	15	18.8	24	0	0	0	0
Minya	44.6	14	32.0	24	31	31	17	2	0	18.9	—	24.2	15	17.4	1	0	0	0	0
Assyout (A)	45.2	14	31.5	24	31	31	18	5	1	19.9	—	25.0	16	19.0	5,25	0	0	0	0
Luxor (A)	46.1	15	36.4	2	31	31	31	19	4	18.3	—	26.2	16	20.6	2	0	0	0	0
Aswan (A)	45.4	14	37.0	2	31	31	31	20	3	—	—	28.8	28	21.9	25	0	0	0	0
Siwa	46.2	10	32.6	21	31	31	27	7	3	19.4	—	25.0	13	15.9	3	0	0	0	0
Bahariya	45.6	14	33.2	24	31	31	21	6	1	19.4	—	25.1	15	19.0	27	0	0	0	0
Farafra	44.3	14	32.5	3	31	31	23	8	0	21.3	—	26.1	15	18.8	4	0	0	0	0
Dakhla	44.9	14	32.5	3	31	31	26	10	0	—	—	29.2	13	18.6	4	0	0	0	0
Kharga	45.7	15	35.1	2	31	31	31	13	1	22.4	—	30.2	12	20.3	4	0	0	0	0
Tor	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hurghada	38.6	16	31.0	25	31	31	7	0	0	22.5	—	27.8	16	22.4	3	0	0	0	0
Quseir	36.3	15	30.1	25	31	31	3	0	0	24.1	—	28.0	28	23.8	25	0	0	0	0

Table A 3.—SKY COVER AND RAINFALL

AUGUST — 1968

STATION	Maen Sky Cover Oct.					Rainfall mms.										
	00 U.T.	06 U.T.	12 U.T.	18 U.T.	Daily Mean	Total Amount	D. From Normal	Max. Fall in one day		Number of Days with Amount of Rain						
								Amount	Date	<0.1	>0.1	≥1.0	≥5.0	≥10	≥25	≥50
Sallum	0.2	0.6	0.9	0.7	0.5	0.0	0.0	0.0	—	0	0	0	0	0	0	0
Mersa Matruh (A)	1.0	2.1	1.6	1.4	1.5	0.0	0.0	0.0	—	0	0	0	0	0	0	0
Alexandria (A)	1.8	1.9	1.8	1.9	1.8	0.0	-0.4	0.0	—	0	0	0	0	0	0	0
Port Said (A)	—	1.2	0.5	—	—	0.0	0.0	0.0	—	0	0	0	0	0	0	0
El Arish	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ghazza	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tanta	0.0	0.4	1.1	0.0	0.5	0.0	0.0	0.0	—	0	0	0	0	0	0	0
Cairo (A)	1.2	2.3	1.0	0.3	1.1	0.0	-Tr.	0.0	—	0	0	0	0	0	0	0
Fayoum	—	1.2	0.3	0.0	—	0.0	0.0	0.0	—	0	0	0	0	0	0	0
Minya (A)	0.0	0.7	0.1	0.0	0.2	0.0	0.0	0.0	—	0	0	0	0	0	0	0
Assyout (A)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	—	0	0	0	0	0	0	0
Luxor (A)	0.0	0.2	0.2	0.2	0.2	0.0	0.0	0.0	—	0	0	0	0	0	0	0
Aswana (A)	0.2	0.6	0.5	0.4	0.4	0.0	Tr.	0.0	—	0	0	0	0	0	0	0
Siwa	0.2	0.0	0.3	0.0	0.1	0.0	0.0	0.0	—	0	0	0	0	0	0	0
Bahariya	0.0	0.3	0.1	0.1	0.1	0.0	0.0	0.0	—	0	0	0	0	0	0	0
Farafra	—	0.0	0.1	0.0	0.0	0.0	0.0	0.0	—	0	0	0	0	0	0	0
Dakhla	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	—	0	0	0	0	0	0	0
Kharga	0.0	0.1	0.0	0.2	0.0	0.0	-Tr.	0.0	—	0	0	0	0	0	0	0
Tor	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hurghada	0.0	0.3	0.5	0.2	0.3	0.0	0.0	0.0	—	0	0	0	0	0	0	0
Quseir	0.0	0.3	0.2	0.2	0.2	0.0	0.0	0.0	—	0	0	0	0	0	0	0

Table A 4.—DAYS OF OCCURRENCE OF MISCELLANEOUS WEATHER PHENOMENA

AUGUST — 1968

Station	Precipitation				Frost	Thunderstorm	Mist Vis ≥ 1000 metres	Fog Vis <1000 Metres	Haze Vis ≥1000 Metres	Thick Haze Vis <1000 Metres	Dust or Sandrising Vis ≥1000 Metres	Dust or Sandstorm Vis <1000 Metres	Gale	Clear Sky	Cloudy Sky
	Rain	Snow	Ice Pellets	Hail											
Sallum	0	0	0	0	0	0	0	0	0	0	0	0	0	28	0
Mersa Matruh (A)	0	0	0	0	0	0	0	0	0	0	6	0	0	20	0
Alexandria (A)	0	0	0	0	0	0	1	1	0	0	0	0	0	17	0
Port Said (A)	0	0	0	0	0	0	0	0	0	0	0	0	0	—	—
El Arish	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ghazza	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tanta	0	0	0	0	0	0	3	0	0	0	0	0	0	30	0
Cairo (A)	0	0	0	0	0	0	10	2	3	0	0	0	0	23	0
Fayoum	0	0	0	0	0	0	0	0	0	0	0	0	0	—	—
Minya (A)	0	0	0	0	0	0	0	0	0	0	0	0	0	31	0
Assyout (A)	0	0	0	0	0	0	0	0	0	0	0	0	0	31	0
Luxor (A)	0	0	0	0	0	0	0	0	0	0	1	0	0	31	0
Aswan (A)	0	0	0	0	0	0	0	0	1	0	7	0	0	28	0
Siwa	0	0	0	0	0	0	0	0	0	0	0	0	0	31	0
Bahariya	0	0	0	0	0	0	0	0	0	0	0	0	0	31	0
Farafra	0	0	0	0	0	0	0	0	0	0	0	0	0	—	—
Dakhla	0	0	0	0	0	0	0	0	2	0	9	0	0	31	0
Kharga	0	0	0	0	0	0	0	0	0	0	3	0	0	—	0
Tor	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hurhgada	0	0	0	0	0	0	0	0	1	0	8	0	0	29	0
Quseir	0	0	0	0	0	0	0	0	0	0	0	0	0	29	0

Table A 5. – NUMBER IN HOURS OF OCCURENCES OF CONCURRENT SURFACE WIND SPEED AND DIRECTION RECORDED WITHIN SPECIFIED RANGES

AUGUST — 1968

Station	calm (hours)	Variable (hours)	Unrecorded (hours)	Wind speed in knots	Number in hours of occurrences of wind blowing from the ranges of directions indicated												
					345 / 014	015 / 044	045 / 074	075 / 104	105 / 134	135 / 164	165 / 194	195 / 224	225 / 254	255 / 284	285 / 314	315 / 344	All direction
Sallum	34	0	0	1—10	67	131	36	34	19	11	5	0	1	43	103	131	581
				11—27	9	30	0	0	0	0	0	0	9	6	24	51	129
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**76**	**161**	**36**	**34**	**19**	**11**	**5**	**0**	**10**	**49**	**127**	**182**	**710**
Mersa Matruh . (A)	18	0	0	1—10	90	13	5	2	6	7	5	26	53	89	44	97	437
				11—27	102	3	2	0	0	0	3	1	1	2	20	155	289
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**192**	**16**	**7**	**2**	**6**	**7**	**8**	**27**	**54**	**91**	**64**	**252**	**726**
Alexandria. . . (A)	17	0	4	1—10	37	8	5	4	4	6	23	8	8	26	111	138	478
				11—27	12	0	0	0	0	0	0	0	0	1	107	225	245
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**49**	**8**	**5**	**4**	**4**	**6**	**23**	**8**	**8**	**27**	**218**	**363**	**723**
Port Said . . . (A)	13	0	5	1—10	64	10	2	2	4	7	10	12	40	58	77	160	446
				11—27	23	0	0	0	0	0	1	3	19	28	92	114	280
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**87**	**10**	**2**	**2**	**4**	**7**	**11**	**15**	**59**	**86**	**169**	**274**	**726**
Tanta	38	0	0	1—10	24	6	3	9	9	4	13	74	99	127	202	131	701
				11—27	0	0	0	0	0	0	0	0	0	5	0	0	5
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				> 48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**24**	**6**	**3**	**9**	**9**	**4**	**13**	**74**	**99**	**132**	**202**	**131**	**706**
Cairo . . . . . (A)	71	0	4	1—10	106	117	35	23	12	1	0	0	5	23	51	109	482
				11—27	86	31	0	0	3	0	0	0	0	0	8	59	187
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**192**	**148**	**35**	**23**	**15**	**1**	**0**	**0**	**5**	**23**	**59**	**168**	**669**
Fayoum	7	0	8	1—10	329	263	1	0	0	0	1	1	2	13	16	88	714
				11—27	1	14	0	0	0	0	0	0	0	0	0	0	15
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**330**	**277**	**1**	**0**	**0**	**0**	**1**	**1**	**2**	**13**	**16**	**88**	**729**
Minya . . . . . (A)	1	0	2	1—10	374	49	0	0	0	0	0	1	1	1	3	33	462
				11—27	256	23	0	0	0	0	0	0	0	0	0	0	279
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**630**	**72**	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**1**	**3**	**33**	**741**

Table A 5 (*contd.*)—**NUMBER IN HOURS OF OCCURENCES OF CONCURRENT SURFACE WIND SPEED AND DIRECTION RECORDED WITHIN SPECIFIED RANGES**

AUGUST – 1968

Station	calm (hours)	Variable (hours)	Unrecorded (hours)	Wind speed in knots	Number in hours of occurrences of wind blowing from the ranges of directions indicated												
					345 – 014	015 – 044	045 – 074	075 – 104	105 – 134	135 – 164	165 – 194	195 – 224	225 – 254	255 – 284	285 – 314	315 – 344	All directions
Asyout . . . . (A)	0	0	12	1 – 10	7	1	1	0	0	0	0	3	10	173	203	109	507
				11 – 27	8	1	0	0	0	0	0	0	0	9	116	91	225
				28 – 47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥ 48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**15**	**2**	**1**	**0**	**0**	**0**	**0**	**3**	**10**	**182**	**319**	**200**	**732**
Luxor . . . . (A)	1	3	0	1 – 10	45	20	13	21	5	36	50	126	53	133	137	72	711
				11 – 27	1	0	0	0	0	0	0	0	0	2	20	6	29
				28 – 47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥ 48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**46**	**20**	**13**	**21**	**5**	**36**	**50**	**126**	**53**	**135**	**157**	**78**	**740**
Aswan . . . . (A)	2	3	7	1 – 10	165	41	8	4	4	8	1	0	1	0	101	188	585
				11 – 27	42	3	0	0	0	0	1	0	0	1	12	83	147
				28 – 47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥ 48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**207**	**44**	**8**	**4**	**4**	**8**	**2**	**0**	**1**	**1**	**113**	**271**	**732**
Siwa	20	3	4	1 – 10	59	134	58	20	12	17	9	15	10	90	97	114	635
				11 – 27	19	27	0	0	0	0	0	0	0	5	6	25	82
				28 – 47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥ 48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**78**	**161**	**58**	**20**	**12**	**17**	**9**	**15**	**10**	**95**	**103**	**139**	**717**
Dakhla	1	23	0	1 – 10	72	54	21	18	8	4	13	29	27	64	104	150	564
				11 – 27	42	39	14	2	0	0	0	0	0	0	1	58	156
				28 – 47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥ 48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**114**	**93**	**35**	**20**	**8**	**4**	**13**	**29**	**27**	**64**	**105**	**208**	**720**
Kharga	6	0	15	1 – 10	50	37	3	0	0	0	0	0	0	9	30	192	341
				11 – 27	159	19	0	0	0	0	0	0	0	0	6	198	382
				28 – 47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥ 48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**209**	**56**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**9**	**36**	**390**	**723**
Hurghada	7	0	1	1 – 10	11	44	4	0	0	2	0	0	1	6	56	50	174
				11 – 27	161	58	0	0	0	0	0	0	0	2	43	274	538
				28 – 47	2	0	0	0	0	0	0	0	0	0	0	22	24
				≥ 48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**174**	**102**	**4**	**0**	**0**	**2**	**0**	**0**	**1**	**8**	**99**	**346**	**736**
Quseir	5	2	1	1 – 10	79	16	6	5	3	4	5	6	7	30	122	175	458
				11 – 27	117	1	0	0	0	0	0	0	0	0	3	157	278
				28 – 47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥ 48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**196**	**17**	**6**	**5**	**3**	**4**	**5**	**6**	**7**	**30**	**125**	**332**	**736**

UPPER AIR CLIMATOLOGICAL DATA

Table B1. MONTHLY MEANS, ABSOLUTE HIGHER & LOWER VALUES OF ALTITUDE, AIR TEMPERATURE & DEW POINT AT STANDARD AND SELECTED PRESSURE SURFACES

AUGUST — 1968

Station	Pressure Surface (Millibar)	Altitude of Pressure Surface (gpm)				Temperature (°C)				Dew Point (°C)	
		N	Mean	Highest	Lowest	N	Mean	Highest	Lowest	N	Mean
Marsa Matruh 0000 U.T.	Surface	25	*1010m.b.	*1013m.b.	*1008m.b.	25	23.3	34.5	20.4	25	18.3
	1000	25	117	140	98	25	24.0	34.8	21.0	25	17.4
	850	25	1531	1575	1497	25	19.2	28.2	11.4	22	6.5
	700	24	3176	3242	3122	24	10.5	14.6	4.6	18	— 2.6
	600	24	4442	4509	4390	24	2.5	6.5	— 1.1	16	— 9.9
	500	24	5890	5944	5841	24	— 7.1	— 3.5	—11.3	14	—20.8
	400	24	7595	7644	7542	24	—18.1	—15.5	—21.2	12	—32.1
	300	20	9685	9772	9622	20	—32.4	—28.4	—39.0	5	—42.6
	250	19	10950	11006	10889	19	—40.3	—33.7	—44.3	5	—51.8
	200	17	12438	12506	12371	17	—50.6	—47.2	—54.8	5	—60.4
	150	11	14259	14344	14162	11	—62.3	—57.8	—67.0	—	—
	100	8	16691	16782	16638	8	—74.2	—71.2	—79.4	—	—
	70	3	18797	18850	18760	3	—67.2	—65.7	—69.0	—	—
	60	2	19750	19801	19699	2	—62.0	—61.4	—62.6	—	—
	50	2	20886	20943	20830	2	—58.6	—57.1	—60.2	—	—
	40	2	22304	22372	22235	2	—54.4	—52.0	—56.7	—	—
	30	1	24080	—	—	1	—52.0	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—
Helwan 0000 U.T.	Surface	31	*994m.b.	*997m.b.	*991m.b.	31	23.5	28.5	20.5	31	17.2
	1000	31	89	112	62	—	—	—	—	—	—
	850	31	1502	1534	1453	31	20.0	30.0	14.4	31	2.3
	700	31	3153	3203	3102	31	12.3	17.2	10.0	31	— 9.8
	600	31	4426	4473	4359	31	4.6	8.3	— 0.6	30	—15.0
	500	31	5886	5937	5819	31	— 4.7	— 0.8	— 9.3	31	—22.9
	400	30	7606	7677	7537	30	—16.1	—14.2	—18.9	30	—33.2
	300	30	9713	9786	9625	30	—30.3	—27.7	—34.5	30	—45.6
	250	29	10984	11056	10886	29	—39.0	—36.8	—42.3	28	—52.6
	200	29	12540	12547	12371	29	—49.7	—47.7	—52.6	26	—61.7
	150	29	14311	14379	14195	29	—62.5	—59.5	—66.8	1	—68.8
	100	28	16732	16809	16621	28	—74.6	—71.0	—80.0	—	—
	70	25	18837	18940	18660	25	—66.9	—61.6	—75.4	—	—
	60	23	19781	19864	19633	23	—62.6	—59.5	—69.3	—	—
	50	21	20928	21025	20848	21	—58.4	—55.2	—61.4	—	—
	40	21	22342	22457	22263	21	—55.3	—52.0	—58.3	—	—
	30	18	24195	24315	24110	18	—52.1	—50.4	—54.3	—	—
	20	13	26866	27140	26740	13	—47.9	—43.7	—51.6	—	—
	10	1	31416	—	—	1	—43.0	—	—	—	—
Aswan 0600 U.T.	Surface	31	*984m.b.	*987m.b.	*982m.b.	31	28.4	33.1	24.5	31	8.0
	1000	31	57	88	33	—	—	—	—	—	—
	850	31	1495	1522	1464	31	24.5	29.4	19.2	31	3.3
	700	31	3162	3203	3110	31	13.5	16.3	10.0	31	— 6.8
	600	31	4439	4475	4386	31	4.0	9.5	0.3	31	—14.4
	500	31	5898	5928	5851	31	— 4.5	— 1.9	—10.2	31	—23.2
	400	31	7627	7682	7581	31	—14.2	— 9.8	—19.2	31	—32.6
	300	31	9749	9825	9672	31	—28.7	—26.2	—33.1	31	—45.4
	250	31	11025	11112	10934	31	—39.2	—35.9	—42.6	31	—53.1
	200	30	12517	12623	12410	30	—50.3	—48.1	—53.1	30	—62.0
	150	29	14337	14460	14213	29	—64.0	—60.3	—66.7	—	—
	100	27	16730	16872	16586	27	—77.8	—71.0	—80.8	—	—
	70	25	18774	18930	18640	25	—68.7	—63.3	—74.5	—	—
	60	20	19730	19846	19564	20	—64.3	—60.8	—68.8	—	—
	50	18	20857	20955	20688	18	—60.4	—57.1	—63.0	—	—
	40	13	22266	22365	22141	13	—56.6	—50.3	—60.6	—	—
	30	12	24120	24323	23993	12	—53.8	—49.9	—57.0	—	—
	20	9	26746	26861	26625	9	—48.2	—36.3	—54.9	—	—
	10	—	—	—	—	—	—	—	—	—	—

* The atmospheric pressure corrected to the elevation of the radiosonde station.

N = The number of cases the element has been observed during the month.

UPPER AIR CLIMATOLOGICAL DATA

Table B1 (*contd*).—MONTHLY MEANS, ABSOLUTE HIGHER & LOWER VALUES OF ALTITUDE, AIR TEMPERATURE & DEW POINT AT STANDARD AND SELECTED PRESSURE SURFACES

AUGUST — 1968

Station	Pressure Surface (Millibar)	Altitude of Pressure Surface (gpm)				Temperature (°C)				Dew Point (°C)	
		N	Mean	Highest	Lowest	N	Mean	Highest	Lowest	N	Mean
Mersa Matruh 1200 U.T.	Surface	23	1011* m.b.	1014* m.b.	1007* m.b.	23	29.3	40.2	26.4	23	19.9
	1000	23	121	152	91	23	28.2	40.2	25.0	22	18.6
	850	23	1545	1586	1508	23	20.5	28.8	12.2	20	6.4
	700	22	3199	3272	3142	22	11.9	15.2	7.7	9	— 6.7
	600	21	4470	4549	4409	21	4.0	6.4	0.7	5	—13.5
	500	18	5906	6003	5870	18	— 5.1	— 2.9	— 8.3	4	—19.8
	400	17	7640	7728	7583	17	—16.5	—13.5	—18.5	2	—27.8
	300	15	9737	9851	9672	15	—30.8	—28.4	—34.9	2	—42.9
	250	14	11008	11136	10924	14	—39.3	—36.6	—43.0	2	—51.7
	200	11	12508	12647	12416	11	—49.2	—46.2	—52.9	2	—61.2
	150	8	14319	14435	14231	8	—61.3	—59.0	—64.7	—	—
	100	6	16747	16869	16654	6	—72.6	—70.5	—76.1	—	—
	70	4	18905	19000	18800	4	—62.4	—58.8	—66.1	—	—
	60	3	19838	19853	19824	3	—55.9	—50.2	—59.5	—	—
	50	2	20990	20999	20982	2	—54.5	—54.3	—54.7	—	—
	40	2	22432	22439	22425	2	—50.5	—50.4	—50.6	—	—
	30	2	24328	24338	24317	2	—46.5	—46.4	—46.6	—	—
	20	1	27046	—	—	1	—43.8	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—
Helwan 1200 U.T.	Surface	30	994* m.b.	997* m.b.	991* m.b.	30	33.3	39.1	29.3	30	12.2
	1000	30	83	110	58	—	—	—	—	—	—
	850	30	1515	1549	1479	30	20.9	26.9	13.2	30	2.5
	700	30	3170	3211	3109	30	16.0	17.8	13.4	30	— 1.5
	600	28	4449	4488	4376	28	5.4	9.6	1.9	25	—17.3
	500	28	5913	5966	5846	28	— 3.6	0.1	— 7.6	28	—24.9
	400	28	7640	7714	7569	28	—15.4	—13.0	—20.0	28	—34.8
	300	27	9757	9833	9658	27	—29.4	—26.1	—34.6	27	—46.7
	250	25	11036	11119	10936	25	—38.0	—35.1	—42.1	21	—53.4
	200	25	12540	12633	12444	25	—48.0	—38.6	—53.2	21	—61.3
	150	23	14370	14479	14245	23	—61.4	—58.9	—64.5	1	—69.9
	100	22	16799	16905	16596	22	—73.2	—71.4	—75.4	—	—
	70	18	18926	19020	18740	18	—65.7	—61.0	—70.8	—	—
	60	16	19869	19975	19741	16	—59.1	—56.9	—63.5	—	—
	50	15	21023	21129	20892	15	—55.7	—53.8	—58.9	—	—
	40	14	22463	22569	22317	14	—51.5	—49 2	—53.9	—	—
	30	12	24345	24443	24177	12	—48.5	—43.9	—51.3	—	—
	20	9	27029	27132	26842	9	—45.1	—42.7	—48.3	—	—
	10	—	—	—	—	—	—	—	—	—	—

* The atmospheric pressure corrected to the elevation of the radiosande station.

N = The number of cases the element has been observed during the month.

Note : Climatological upper air data for Aswan at 1200 U.T. are missing since number of days of release of radiosonde sets at this station are less than the permissible number used for calculating or processing monthly values.

Table B 2.—MEAN AND EXTREME VALUES OF THE FREEZING LEVEL AND THE TROPOPAUSE. THE HIGHEST WIND SPEED IN THE UPPER AIR

AUGUST — 1968

	Station	Freezing Level									Frist Tropopasue									Highest wind speed			
		Mean			Highest			Lowest			Mean			Highest			Lowest						
		Altitude (gpm)	Pressure (mb.)	Dew point (°C)	Altitude (gpm)	Pressure (mb.)	Dew point (°C)	Altitude (gpm)	Pressure (mb.)	Dew point (°C)	Altitude (gpm)	Pressure (mb.)	Temperature (°C)	Altitude (gpm)	Pressure (mb.)	Temperature (°C)	Altitude (gpm)	Pressure (mb.)	Temperature (°C)	Altitude (gpm)	Pressure (mb.)	Direction (000—360)	Speed in Knots
0000 U.T.		(N)	(N)	(N)							(N)	(N)	(N)										
	M. Matruh (A)	4766 (24)	573 (24)	—11.7 (12)	5320	536	—	4100	624	— 3.6	14147 (5)	163 (5)	—62.4 (5)	16676	100	—71.6	9030	328	—31.9	12150	206	240	64
	Helwan . . .	5110 (30)	550 (30)	—19.1 (30)	5630	518	—23.5	4220	561	—17.7	16527 (24)	104 (24)	—74.4 (24)	17620	85	—72.3	14960	134	—68.0	15255	129	220	81
	Aswan . . (A)	5064 (31)	557 (31)	—17.2 (31)	5620	519	—21.5	4480	598	—10.2	16815 (24)	98 (24)	—78.5 (24)	17770	84	—80.8	15500	122	— 73.6	25240	26	095	80
1200 U.T.		(N)	(N)	(N)							(N)	(N)	(N)										
	M. Matruh (A)	5102 (19)	554 (19)	—16.5 (6)	5600	524	—	4260	612	— 7.6	15855 (4)	117 (4)	—69.6 (4)	17000	96	—71.5	14900	135	—68.0	12400	—	286	87
	Helwan . . .	5264 (28)	545 (28)	—22.4 (25)	6000	498	—22.2	4320	615	—16.5	16281 (17)	110 (17)	—72.1 (17)	17600	89	—74.4	13760	165	—60.0	13910	162	270	57
	Aswan . . (A)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

N = The number of cases the element has been observed during the Month.

Table B 3 (*contd.*)—NUMBER OF OCCURRENCES OF WIND DIRECTION WITHIN SPECIFIED RANGES AND THE MEAN SCALAR WIND SPEED AT THE STANDARD AND SELECTED PRESSURE SURFACES.

MERSA MATRUH (A) — AUGUST 1968

Time	Pressure Surface (Millibar)	Wind between specified ranges of direction (000—360°)																						Number of Calm winds	Total Number of Observations (T N)	Mean Scalar Wind Speed (Knots)
		345 / 014		015 / 044		045 / 074		075 / 104		105 / 134		135 / 164		165 / 194		195 / 224		225 / 254		255 / 284		285 / 314		315 / 344				
		N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m			
0000 U.T.	Surface	0	—	0	—	1	2	0	—	0	—	0	—	0	—	3	8	5	6	3	6	2	6	9	13	2	25	8
	1000	3	17	1	5	0	—	0	—	0	—	0	—	0	—	0	—	1	6	0	—	4	9	8	14	0	17	13
	850	8	19	3	21	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	20	1	9	4	15	0	17	18
	700	5	29	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	18	1	10	4	14	4	19	0	16	20
	600	3	19	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	3	12	5	16	5	19	0	16	17
	500	2	25	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	24	5	18	4	19	4	26	0	16	22
	400	1	25	1	18	0	—	0	—	0	—	0	—	0	—	1	22	6	29	0	—	2	45	4	25	0	15	29
	300	0	—	0	—	0	—	0	—	0	—	0	—	0	—	3	43	3	30	0	—	3	37	5	27	0	14	33
	250	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	23	5	41	1	10	4	34	1	37	0	13	33
	200	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	6	38	2	38	3	36	1	21	0	12	36
	150	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	26	5	42	0	—	1	20	0	—	0	7	37
	100	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	6	3	32	0	—	1	26	0	—	0	5	26
	70	0	—	0	—	0	—	0	—	0	—	0	—	1	6	0	—	0	—	1	26	0	—	0	—	1	3	11
	60	0	—	0	—	1	8	0	—	0	—	0	—	0	—	0	—	1	7	0	—	0	—	0	—	0	2	8
	50	0	—	0	—	1	9	0	—	0	—	0	—	0	—	0	—	1	13	0	—	0	—	0	—	0	2	11
	40	0	—	0	—	1	21	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	1	21
	30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1200 U.T.	Surface	7	13	2	6	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	3	14	11	17	0	23	14
	1000	5	16	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	24	17	14	0	23	15
	850	4	14	2	16	0	—	0	—	0	—	0	—	0	—	0	—	2	10	5	19	5	18	5	18	0	23	17
	700	5	19	0	—	0	—	0	—	0	—	0	—	0	—	0	—	3	9	5	24	2	24	7	22	0	22	20
	600	2	17	1	20	0	—	0	—	0	—	0	—	0	—	0	—	1	9	7	18	4	20	5	17	0	20	18
	500	2	22	0	—	0	—	0	—	0	—	0	—	0	—	0	—	3	19	4	16	4	30	5	22	0	18	22
	400	2	30	0	—	0	—	0	—	0	—	0	—	0	—	2	37	4	21	2	28	4	24	3	41	0	17	29
	300	1	23	0	—	0	—	0	—	0	—	0	—	0	—	2	42	4	45	3	31	4	44	1	27	0	15	29
	250	0	—	0	—	0	—	0	—	0	—	0	—	0	—	3	45	2	44	4	36	5	40	0	—	0	14	40
	200	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	37	4	43	3	43	3	45	0	—	0	11	43
	150	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	36	3	40	3	37	1	26	0	—	0	8	34
	100	0	—	0	—	0	—	0	—	0	—	0	—	1	3	2	30	1	30	1	21	1	5	0	—	0	6	18
	70	0	—	0	—	1	7	0	—	0	—	1	34	0	—	0	—	0	—	1	12	1	10	0	—	0	4	16
	60	0	—	0	—	0	—	0	—	0	—	2	3	0	—	0	—	0	—	0	—	0	—	0	—	0	2	3
	50	0	—	0	—	1	9	1	13	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	2	11
	40	0	—	0	—	1	14	1	22	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	2	18
	30	0	—	0	—	1	10	0	—	1	27	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	2	18
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

N = The number of cases the elemnt has been observed during the month.

TN = The total number of cases the wind has been observed for all directions during the month.

Table B 3.—NUNBER OF OCCURRENCES OF WIND DIRECTION WITHIN SPECIFIED RANGES AND THE MEAN SCALAR WIND SPEED AT THE STANDARD AND SELECTED PRESSURE SURFACES.

HELWAN (A) AUGUST—1968

Time	Pressure Surface (Millibar)	Wind between ranges of direction (000—360)°																						Number of Calm winds	Total Number of observation (TN)	Mean Scalar wind Speed (Knots)
		345 / 014		015 / 044		045 / 074		075 / 104		105 / 134		135 / 164		165 / 194		195 / 224		225 / 254		255 / 284		285 / 314		315 / 344				
		N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m			
0000 U.T.	Surface	10	9	11	8	1	6	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	6	4	8	4	31*	7
	1000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	850	9	18	5	16	4	8	0	—	0	—	0	—	0	—	0	—	0	—	4	16	4	14	5	17	0	31	16
	700	8	17	4	27	0	—	0	—	1	6	0	—	0	—	1	8	0	—	5	18	9	14	3	10	0	31	16
	600	4	16	0	—	2	20	0	—	0	—	1	6	0	—	1	8	6	14	6	17	7	13	4	16	0	31	15
	500	3	19	1	20	0	—	0	—	0	—	0	—	0	—	1	3	8	17	8	17	4	17	5	19	0	30	17
	400	4	10	0	—	0	—	0	—	0	—	0	—	0	—	5	18	4	24	7	32	6	28	4	27	0	30	24
	300	0	—	0	—	0	—	0	—	0	—	0	—	0	—	5	21	8	30	11	31	5	25	0	—	0	29	28
	250	0	—	0	—	0	—	0	—	0	—	0	—	0	—	7	29	6	33	12	38	1	37	3	20	0	29	33
	200	0	—	0	—	0	—	0	—	0	—	0	—	1	27	5	33	10	38	6	39	5	24	1	31	0	28	34
	150	0	—	0	—	0	—	0	—	0	—	1	31	2	46	6	31	11	37	5	30	2	17	1	7	0	28	32
	100	0	—	0	—	0	—	0	—	0	—	2	28	4	16	6	17	0	—	4	20	1	20	0	—	0	17	19
	70	0	—	1	21	0	—	4	12	1	8	1	16	1	12	0	—	1	10	0	—	0	—	0	—	0	9	13
	60	0	—	0	—	0	—	5	16	1	29	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	6	18
	50	0	—	0	—	1	24	4	29	1	6	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	6	24
	40	0	—	0	—	0	—	3	31	0	—	0	—	1	45	0	—	0	—	0	—	0	—	0	—	0	4	35
	30	0	—	0	—	0	—	3	35	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	3	35
	20	0	—	0	—	0	—	1	43	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	1	43
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1200 U.T.	Surface	11	11	2	12	0	—	0	—	0	—	0	—	0	—	0	—	1	12	0	—	3	9	13	11	0	30	11
	1000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	850	9	12	10	15	1	12	0	—	0	—	0	—	0	—	0	—	1	18	1	14	5	11	3	11	0	30	13
	700	5	16	4	23	1	6	1	12	0	—	0	—	0	—	0	—	4	20	4	16	5	14	5	7	0	29	15
	600	7	21	1	25	0	—	1	4	0	—	0	—	0	—	4	18	1	14	9	17	2	13	3	8	0	28	16
	500	4	14	1	13	0	—	0	—	0	—	1	9	0	—	3	15	4	22	5	19	4	17	6	18	0	28	17
	400	1	6	1	13	0	—	0	—	0	—	0	—	1	16	5	19	3	21	3	32	12	20	2	23	0	28	21
	300	0	—	0	—	0	—	0	—	0	—	0	—	0	—	3	24	7	24	14	36	1	32	1	36	0	26	31
	250	0	—	0	—	0	—	0	—	0	—	0	—	4	24	0	—	7	28	10	36	3	25	0	—	0	24	30
	200	0	—	0	—	0	—	0	—	0	—	0	—	2	20	3	23	6	32	8	36	3	28	0	—	0	22	30
	150	0	—	0	—	0	—	0	—	0	—	0	—	2	24	3	26	10	32	4	28	2	27	0	—	0	21	29
	100	0	—	0	—	1	13	0	—	0	—	1	15	4	16	2	28	1	19	3	27	0	—	0	—	0	12	21
	70	0	—	0	—	0	—	0	—	1	6	1	11	1	21	0	—	0	—	0	—	0	—	0	—	0	3	13
	60	0	—	0	—	0	—	0	—	0	—	2	18	0	—	0	—	0	—	0	—	0	—	0	—	0	2	18
	50	0	—	0	—	0	—	1	36	1	36	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	2	36
	40	0	—	0	—	0	—	0	—	2	32	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	2	32
	30	0	—	0	—	0	—	0	—	2	25	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	2	25
	20	0	—	0	—	0	—	0	—	1	38	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	1	38
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

N = The number of cases the element has been observed during the month.

TN = The total number of cases the wind has been observed for all directions during the month.

Table B 3 (*contd.*).—NUMBER OF OCCURRENCES OF WIND DIRECTION WITHIN SPECIFIED RANGES AND THE MEAN SCALAR WIND SPEED AT THE STANDARD AND SELECTED PRESSURE SURFACES.

ASWAN (A) — AUGUST 1968

Time	Pressure Surface (Millibar)	Wind between ranges of direction (000—360)°																						Number of Calm winds	Total Number of observation (TN)	Mean Scalar wind Speed (Knots)
		345 / 014		015 / 044		045 / 074		075 / 104		105 / 134		135 / 164		165 / 194		195 / 224		225 / 254		255 / 284		285 / 314		315 / 344				
		N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m			
0000 U.T.	Surface	4	7	2	9	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	3	8	8	16	7	0	31	7
	1000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	850	8	13	6	15	1	12	1	4	2	6	0	—	1	5	1	5	0	—	3	7	2	6	4	12	0	29	11
	700	1	13	2	4	1	5	3	9	0	—	3	12	1	20	3	16	6	14	7	13	2	13	0	—	0	29	12
	600	0	—	2	6	2	8	1	6	1	11	1	8	3	11	5	17	8	17	5	8	1	10	0	—	0	29	12
	500	4	8	2	15	2	10	3	5	1	14	3	16	2	6	2	10	2	10	5	11	1	5	2	8	0	29	10
	400	2	10	3	16	2	9	1	14	2	10	0	—	4	8	4	8	7	10	1	13	3	13	0	—	0	29	11
	300	0	—	0	—	1	10	1	3	7	12	4	12	3	13	4	11	3	10	4	10	1	13	1	11	0	29	11
	250	0	—	0	—	1	15	5	14	5	11	6	10	2	4	4	16	4	13	1	7	1	5	0	—	0	29	11
	200	0	—	0	—	2	12	4	15	7	20	10	17	4	16	1	8	1	15	0	—	0	—	0	—	0	29	16
	150	0	—	0	—	0	—	4	17	9	16	11	22	3	15	0	—	0	—	0	—	0	—	0	—	0	27	19
	100	0	—	0	—	0	—	4	27	19	27	1	20	0	—	0	—	0	—	0	—	0	—	0	—	0	24	27
	70	0	—	0	—	2	20	14	25	4	29	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	20	25
	60	0	—	1	14	1	21	15	31	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	17	29
	50	0	—	0	—	2	43	11	33	1	20	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	14	34
	40	1	31	0	—	1	25	7	33	3	32	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	12	32
	30	0	—	0	—	2	34	8	40	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	10	38
	20	0	—	0	—	0	—	3	44	1	20	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	4	38
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

N = The number of cases the element has been observed during the month.

TN = The total number of cases the wind has been observed for all directions during the month.

REVIEW OF AGRO-METEOROLOGICAL STATIONS

EL KASR — AUGUST 1968

This month was nearly normal with respect to the mean daily air temperature. The month was characterized by two heat waves during the periods (*9th* - 10*th*) and (12*th*-14*th*). The second heat wave yielded the highest maximum air temperature for the month (43.3°C) on the 13 *th.*

The extreme maximum soil temperatures were higher than the corresponding values of last August at all depths between 2 and 100 cm., and the differences ranged between 3.4°C at 2cm. and 0.1°C at 20 cm. The extreme minimum soil temperatures were lower than the corresponding values of last August at 2, 5 and 20 cm. with slight differeces ranging between 0.3 and 0.5C. At 10 and 50 cm. depths the extreme soil minima were the same as last August, and at 100 cm. depth the value was slightly higher (0.3°C).

The mean daily Pan evaporation was 1.36 mm. higher than the corresponding value of August 1967. The total actual duration of bright sunshine was 11.5 hours less than the corresponding value of August 1967.

TAHRIR — AUGUST 1968

This month was slightly cooler than last August. The month was mainly characterized by a heat wave during the period (10*th* - 15*th*) yielding the highest maximum air temperature for the month (44.7C) in the 14*th*. The daily maximum air temperatures were below normal most of the first and fourth weeks of the month.

The extreme maximum soil temperatures were higher than the corresponding values of last August at depths between 2 and 20 cm. and the differences ranged between 3.3°C at 2 cm. and 1.1°C at 20 cm. At 50 and 100 cm, depths the extreme soil maxima were lower than last August and the differences were 0.4° and 0.6°C respectively.

The extreme minimum soil temperatures were lower than last August at all depths between 2 and 100cm., and the differences ranged between 2.5°C at 2 cm. and 0.6C at 100 cm.

The mean daily Pan evaporation was 0.14 mm. less than the corresponding value of August 1967. The total actual duration of bright sunshine was 6.7 hours more than corresponding value of August 1967.

BAHTIM — AUGUST 1968

This month was slightly cooler than last August. The daily maximum air temperatures were below average most days of the month. The month was mainly characterized by a heat wave during the period (11*th* - 14*th*) yielding the highest maximum air temperature for the month (40.5°C) on the 14*th*.

The extreme maximum soil temperatures were higher than the corresponding values of last August at all depths between 2 and 100 cm., and the differences ranged between 8.0°C at 5cm. and 0.2°C at 50cm. The extreme minimum soil temperatures were higher than the corresponding values of last August at 2cm. and also at depths between 20 and 100 cm. and the differences ranged between 0.3°C at 2 cm. and 1.8°C at 100cm. At 5 and 10 cm. depths the extreme soil minima were lower than last August and the differences were 0.3°C and 0.4°C respectively.

The mean daily Pan evaporation was 0.47mm. more than the corresponding value of August 1967. The total actual duration of bright sunshine was 1.1 hour less than the coresponding value of August 1967

KHARGA — AUGUST 1968

This month was slightly warmer than normal. The month was characterized by three heat waves on the *5th* and during the periods (*9th* - *16th*) and (*27th* - *30th*). The second heat wave was the most excessive and yielded the highest maximum air temperature for the month (45.7C) on the *15th*. The daily maximum air temperatures were below normal during the periods (*1st* - *4th*), (*6th* - *8th*) and (*23rd* - *26th*).

The extreme maximum soil temperatures were higher than the corresponding values of last August at all depths between 2 and 100cm. except at 5 cm. where the value was slightly lower (0.6°C); the differences ranged between 0.1°C at both 2 and 100cm. and 1.6°C at 10 cm. The extreme minimum soil temperature at 2 cm. depth was the same as last August. At other depths between 5 and 100 cm. the extreme soil minima were higher than last August except at 20 cm. depth where the value was lower, the differences were slight and ranged between 0.1°C and 0.6°C.

The mean daily Pan evaporation was 2.34mm. more than the corresponding value of August 1967. The total actual duration of bright sunshine was 3.8 hours less than the corresponding value of August 1967.

Note.—During this month recording charts of the mercury in steel hygrograph were not available at Tahrir and Bahtim centres. For these centres mean of the day of air temperature ; relative humidity and vapour pressure are calculated using the following equations ;

mean of the day of air temperature

= (0600 + 1200 + 1800) U.T. dry bulb thermometer readings + minimum air temperature ÷ 4

mean of the day of relative humidity

= (0600 + 1800) U.T. observation ÷ 2

mean of the day of vapour pressure

= (0600 + 1200 + 1800) U.T. observations ÷ 3

Table C 1.—AIR TEMPERATURE AT 1½ METRES ABOVE GROUND

AUGUST — 1968

STATION	Air Temperature (°C)					Mean Dnration in hours of daily air temperature above the following value										
	Mean Max.	Mean Min.	Mean of the day	Night time mean	Day time mean	—5°C	0°C	5°C	10°C	15°C	20°C	25°C	30°C	35°C	40°C	45°C
El Kasr	30.2	20.7	25.6	23.2	27.4	24.0	24.0	24.0	24.0	24.0	23.2	12.8	1.3	0.3	0.1	0.0
Tahrir	34.3	19.7	26.0	—	29.3	—	—	—	—	—	—	—	—	—	—	—
Bahtim	33.3	17.8	25.0	—	28.7	—	—	—	—	—	—	—	—	—	—	—
Kharga	39.4	24.6	32.3	29.3	34.8	—	—	—	—	—	—	—	—	—	—	—

Table C 2.—EXTREME VALUES OF AIR TEMPERATURE AT 1½ METRES ABOVE GROUND, ABSOLUTE MINIMUM AIR TEMPERATURE AT 5cms ABOVE GROUD OVER DIFFERENT FIELDS.

AUGUST — 1968

STATION	Max. Temp. at 1½ metres				Min. Temp. at 1½ metres (°C)				Min. Temp. at 5 cms. above			
	Highest		Lowest		Highest		Lowest		Dry soil		Grass	
	value	Date	value	Date	value	Date	value	Date	Value	Date	Value	Date
El Kasr	43.3	13	28.1	23	24.9	14	17.7	26	13.9	26	—	—
Tahrir	44.7	14	31.4	22	22.7	14	16.6	22	15.2	22	—	—
Bahtim	40.5	14	30.4	22	20.8	3	15.2	22	13.1	22	—	—
Kharga	45.7	15	35.1	2	30.2	12	20.3	4	17.6	20	—	—

Table C 3.—(SOLAR + SKY) RADIATION, DURATION OF BRIGHT SUNSHINE, RELATIVE HUMIDITY, & VAPOUR PRESSURE AT 1½ METRES ABOVE GROUND, EVAPORATION & RAINFALL.

AUGUST — 1968

STATION	(Solar+Sky Radiation gm. cal/cm²	Duration of Bright Sunshine (hours)			Relative Humidity %				Vapour pressure (mms)						Evaporation (mms)		Rainfall (mms)		
		Total Actual monthly	Total Possible monthly	%	Mean of day	1200 U.T.	Lowest	Date	Mean of day	1200 U.T.	Highest	Date	Lowest	Date	Piche	Pan class A	Total Amount Monthly	Max. Fall in one day	Date
El Kasr .	527.4	367.3	411.9	89	67	61	9	13	16.5	18.3	23.4	11	5.7	13	8.7	12.31	0.0	0.0	—
Tahrir . .	571.4	368.9	410.5	90	78	51	28	14	19.1	18.8	25.3	14	14.6	22	8.3	9.71	0.0	0.0	—
Bahtim . .	620.6	359.1	409.2	86	75	42	23	14	16.9	15.3	24.9	14	12.2	5	7.3	8.95	0.0	0.0	—
Kharga .	552.5	375.0	402.7	93	27	18	7	11	9.3	8.7	16.1	16	4.4	11	25.5	21.29	0.0	0.0	—

THE ARAB REPUBLIC OF EGYPT

MONTHLY WEATHER REPORT

VOLUME 11 NUMBER 9

SEPTEMBER, 1968

U.D.C. 551. 506.1 (62)

THE EGYPTIAN METEOROLOGICAL AUTHORITY
CAIRO

PUBLICATIONS OF THE METEOROLOGICAL AUTHORITY OF THE ARAB REPUBLIC OF EGYPT — CAIRO

In fulfilment of its duties, the Egyptian Meteorological Authority issues serveral reports and publications on weather, climatc and agro-meteorology. The principal publications are described on this page.

Orders for publications should be addressed to :

"Chairman of the Board of Directors, Meteorological Authority, Kubri-el-Qubbeh — CAIRO".

THE DAILY WEATHER REPORT

This report is issued daily by the Meteorological Authority since the year 1901. It includes surface and upper air observations carried out by the relevant networks of the Republic at the principal hours of observations.

As from January 1968, this report was revised to include a condensed representative selection of surface and upper air observations besides the 1200 U.T. surface & 500 mb charts.

As from 1st January 1972, the Daily Weather Report will not be issued or distributed because it does not serve no longer any good purpose as it used to be in the past. The Meteorological Authority is ready to supply the recipients of the Report with any information used to be included in it, if they so desire.

THE MONTHLY WEATHER REPORT

First issued in 1909, the Monthly Weather Report served to give a brief summary of the weather conditions that prevailed over Egypt during the month, with a table showing the mean values for few meteorological elements and their deviations from the normal values. From 1954 to 1957 this report was in a rapid state of development and extension resulting into a voluminous report on January 1958 giving surface, upper air, and agro-meteorological data for Egypt.

As from January 1964, the Monthly Weather Report was pressed to give climatological data for a representative selection of synoptic stations.

THE AGRO-METEOROLOGICAL ABRIDGED MONTHLY REPORT

Gives a review of weather experienced in the agro-meteorological stations of Egypt as well as monthly values of certain elements.

THE ANNUAL REPORT

This report gives annual values and statistics for the various meteorological elements, together with a summary of the weather conditions that prevailed during all months of the year.

CLIMATOLOGICAL NORMALS FOR EGYPT

A voluminous edition was issued in March 1968 which brings normals and mean values up till 1960.

METEOROLOGICAL RESEARCH BULLETIN

First issued in January 1969 on a bi-annual basis. It includes research works carried out by members of staff "The Meteorological Institute for Research and Training" and the Operational Divisions of the Meteorological Authority.

TECHNICAL NOTES

As from October 1970, the Meteorological Authority started to issue a new series of publications in the form of Technical Notes (non periodical) on subjects related to studies and applications of meteorology in different fields for the benefit of personnel working in these fields.

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CAIRO

CONTENTS

Note : For explanatory notes on tables please refer to Volume 11, Number 1 (January 1968).

GENERAL SUMMARY OF WEATHER CONDITIONS

SEPTEMBER 1968

Changeable Autumn weather, characterized with four heat waves. Early morning low stratus and mist over Delta, Canal and Cairo areas.

GENERAL DESCRIPTION OF WEATHER

The prevailing weather during this month was generally rather mild in the northern parts, rather hot in the central parts and hot in the southern parts. The month was intervened with four variant heat waves round the periods : (1st — 2nd), (10th — 11th), (17th — 20th) & (25th — 26th). The second and third heat waves were generally of moderate intensity, but the first and last waves were weak.

The month was rainless apart from light rain over Sallum and Siwa on the 10th. Early morning low clouds developed frequently over Lower Egypt & Cairo. Light rising sand was reported during few days over scattered parts mainly in Upper Egypt, the Western Desert and Red sea districts.

PRESSURE DISTRIBUTION

The most outstanding features of pressure distribution over the surface maps during this month were :

— The Atlantic anticyclone and its extension through the Mediterranean.

— Deep low pressure systems through North Europe, associated sometimes with secondaries over Central Europe.

— A ridge over Central Mediterranean.

— The complex monsoon low pressure system over the Arabian Gulf, Arabia and North Sudan.

The barometric pressure over Egypt during this month experienced four falls round the periods : (5th — 7th), (9th — 11th), (14th — 18th) & (21st — 26th). These pressure falls were caused by the slight deepening and north-westward elongation of the monsoon trough over the Arabian Gulf or North Arabia towards Asia Minor.

During the rest part of the month, high pressure over Central Mediterranean extended slightly eastwards and the barometric pressure over Egypt was above normal.

The most outstanding features of pressure distribution over the upper air charts were :

— Two deep upper low pressure systems over North Atlantic and North Russia.

— Secondary upper lows or troughs traversing East Mediterranean and north of Egypt on the 5th, 15 th, 22nd and 26th.

— Upper high pressure system south of latitude 30°N.

SURFACE WIND

The prevailing surface winds during this month were generally light to moderate and blew from NW & NE directions - Surface winds became fresh to strong during several days over scattered parts of the Mediterranean, Western Desert, Upper Egypt and Red Sea districts. Calms were frequent most of night and early morning intervals in scattered places of the country.

TEMPERATURE

Maximum air temperature showed rather pronounced variability during this month. It was in general moderately above normal during the second and third heat waves, slightly above normal during the first and last heat waves - During the rest periods of the month, maximum air temperature was below normal with slight to moderate departures-Maximum air temperature values ranged most days of the month between 27°C & 33°C in the northern parts, between 30°C & 36 °C in the central parts, between 37°C & 43 °C in the southern parts.

The absolute maximum air temperature was 45.0 °C reported at Kom Ombo on the 19th.

Minimum air temperature oscillated round the normal and its departures were slight to moderate. Minimum air temperature values ranged most days of the month between 17 °C & 23 °C in the northern and central parts, between 20 °C & 26 °C in the southern parts.

The absolute minimum air temperature was 13.0°C reported at Shebin El kom on the 23 rd & 30th.

PRECIPITATION

During this month, no measurable rain was reported all over the Republic apart from 6.0 mms of rain which fell over Sallum and 0.8 mms over Siwa on the 10th.

The highest daily rainfall was 6.0 mms reported at Sallum on the 10th. which was also the highest monthly rainfall.

Chairman (M. F. TAHA)

Board of Directors

Cairo, February 1972

Table A 1.—MONTHLY VALUES OF THE ATMOSPHERIC PRESSURE, AIR TEMPERATURE, RELATIVE HUMIDITY, BRIGHT SUNSHINE DURATION & PICHE EVAPORATION

SEPTEMBER 1968

Station	Atmospheric Pressure (mbs) M.S.L.		Air Temperature °C									Relative Humidity %		Bright Sunshine Duration (Hours)			Piche Evaporation (mms.)
			Maximum		Minimum		$\frac{A+B}{2}$	Dry Bulb		Wet Bulb							
	Mean	D.F. Normal or Average	(A) Mean	D.F.Normal or Average	(B) Mean	D.F.Normal or Average		Mean	D.F.Normal or Average	Mean	D.F.Normal or Average	Mean	D.F.Normal or Average	Total Actual	Total Possible	%	Mean
Sallum	1014.5	+0.7	29.9	+0.6	20.5	+0.3	25.2	24.7	—0.1	20.3	+0.2	65	+2	—	—	—	6.8
Mersa Matruh(A)	1014.3	+0.6	29.1	+0.5	19.2	—0.4	24.2	24.0	—0.2	20.2	+0.2	69	+2	—	—	—	7.9
Alexandria. (A)	1014.0	+1.4	30.0	+0.5	20.9	—0.3	25.4	25.0	—1.0	20.4	—0.8	64	—4	324.4	370.8	87	7.7
Port Said. (A)	1012.8	+0.9	28.9	—0.3	22.4	—1.4	25.7	—	—	—	—	—	—	327.7	370.8	88	7.4
El Arish	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ghazza	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tanta	1013.4	+2.0	32.3	—0.1	18.4	+0.8	25.4	24.5	0.0	19.9	+0.1	63	0	324.6	370.3	88	6.1
Cairo. (A)	1012.9	+0.3	32.3	0.0	19.7	—0.2	26.0	25.6	+0.1	19.8	—0.4	56	—2	—	—	—	15.3
Fayoum	—	—	34.0	+0.3	19.4	—0.2	26.7	—	—	—	—	—	—	—	—	—	7.3
Minya. (A)	1011.8	+0.8	33.6	+0.2	18.3	—0.3	25.9	25.7	+0.1	19.5	—0.1	53	—2	325.9	370.1	88	11.8
Assyout. (A)	1011.4	+1.0	34.6	—0.3	19.8	—0.3	27.2	27.0	—0.5	18.7	+0.2	41	+2	—	—	—	16.3
Luxor. (A)	1009.5	+1.2	39.6	+1.3	21.6	+0.2	30.6	30.5	+0.5	19.5	+0.1	31	—1	—	—	—	12.6
Aswan. (A)	1008.8	+0.8	39.9	+0.7	23.2	+1.1	31.6	31.3	+0.5	17.6	+0.4	19	0	—	—	—	25.7
Siwa	1013.7	+0.3	34.6	—0.3	18.3	0.0	26.4	26.8	—0.1	18.7	+0.2	43	+2	—	—	—	11.6
Baharyia	1013.2	+1.3	34.4	+0.4	19.1	+0.3	26.8	26.9	+0.3	18.6	0.0	41	—2	—	—	—	10.0
Farafra	—	—	35.0	+0.6	20.0	+1.1	27.5	—	—	—	—	—	—	—	—	—	—
Dakhla	1012.5	+2.3	35.6	0.0	19.9	—0.4	27.8	27.8	+0.2	17.0	—0.2	28	0	—	—	—	19.2
Kharga	1011.0	+1.0	36.8	+0.2	21.8	+0.5	29.3	29.6	+1.0	17.6	—0.3	29	—3	340.1	368.5	92	22.5
Tor	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hurghada	1009.3	+1.3	32.2	+1.4	22.7	—0.4	27.5	27.8	0.0	20.4	—0.6	48	—4	—	—	—	20.7
Quseir	1010.1	+1.9	31.0	—0.9	24.5	—0.7	27.7	28.1	—0.2	21.4	0.0	52	—1	—	—	—	16.8

Table A 2.—MAXIMUM AND MINIMUM AIR TEMPERATURE

SEPTEMBER 1968

Station	Maximum Temperature °C									Grass Min. Temp.		Minimum Temperature °C							
	Highest	Date	Lowest	Date	No. of Days with Max-Temp.					Mean	Dev. From Normal	Highest	Date	Lowest	Date	No. of Days with Min. Temp.			
					>25	>30	>35	>40	>45							≤10	≤5	≤0	≤-5
Sallum	35.4	25	26.4	29	30	14	1	0	0	20.4	—	23.5	17	19.0	11-14-30	0	0	0	0
Mersa Matruh (A)	35.2	10	26.4	30	30	5	1	0	0	—	—	23.0	21	16.8	16—24	0	0	0	0
Alexandria (A)	34.0	18	27.4	29	30	13	0	0	0	19.1	—	24.2	2	16.8	24	0	0	0	0
Port Said (A)	33.0	1	27.0	28.29	30	3	0	0	0	22.7	—	25.4	18	20.5	30	0	0	0	0
El Arish	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ghazza	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tanta	35.7	1	28.7	30	30	27	3	0	0	—	—	20.7	12	15.8	25	0	0	0	0
Cairo (A)	39.2	11	28.6	29	30	25	5	0	0	—	—	24.4	11	16.6	30	0	0	0	0
Fayoum	39.0	11	29.6	30	30	29	9	0	0	17.5	—	26.0	19	14.6	30	0	0	0	0
Minya (A)	40.6	11	29.0	30	30	28	9	1	0	16.5	—	22.0	12	15.0	30	0	0	0	0
Assyout (A)	42.2	11	29.3	30	30	29	12	1	0	18.8	—	23.2	19	17.0	28	0	0	0	0
Luxor (A)	44.0	20	34.8	30	30	30	29	12	0	16.0	—	26.4	12	17.8	30	0	0	0	0
Aswan (A)	44.6	19	36.5	14	30	30	30	13	0	—	—	26.7	12	20.0	15	0	0	0	0
Siwa	40.7	1	30.6	30	30	30	13	1	0	17.0	—	20.6	1	14.8	28	0	0	0	0
Bahariya	39.4	1	29.6	30	30	28	12	0	0	17.8	—	24.0	11	15.0	30	0	0	0	0
Farafra	40.0	1	30.2	30	30	30	13	0	0	19.1	—	23.3	2	15.3	25	0	0	0	0
Dakhla	40.8	11	30.0	30	30	29	16	3	0	—	—	25.2	2	14.0	30	0	0	0	0
Kharga	43.4	11	31.8	29,30	30	30	22	7	0	20.2	—	26.5	4	16.7	17	0	0	0	0
Tor	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hurghada	37.0	2	29.2	29	30	28	2	0	0	—	—	25.8	20	19.3	30	0	0	0	0
Qusoir	36.4	19	28.8	30	30	21	1	0	0	23.7	—	27.2	3	22.0	7	0	0	0	0

Table A 3.—SKY COVER AND RAINFALL

SEPTEMBER 1968

Station	Mean Sky Cover Oct.					Rainfall mms.										
	00 U.T.	06 U.T.	12 U.T.	18 U.T.	Daily Mean	Total Amount	D. From Normal	Max. Fall in one day		Number of Days with Amount of Rain						
								Amount	Date	<0.1	≥0.1	≥1.0	≥5.0	≥10	≥25	≥50
Sollum	0.2	1.0	2.0	0.6	1.0	6.0	+5.3	6.0	10	1	1	1	1	0	0	0
Mersa Matruh (A)	1.1	2.5	2.6	2.4	2.7	tr,	—0.1	tr,	10	1	0	0	0	0	0	0
Alexandria (A)	3.3	3.5	2.8	2.6	2.3	0.0	—0.5	0.0	—	0	0	0	0	0	0	0
Port Said (A)	—	1.4	1.2	—	—	0.0	—0.1	0.0	—	0	0	0	0	0	0	0
El Arish	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ghalma	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tanta	0.1	0.3	1.7	0.1	0.7	0.0	—0.2	0.0	—	0	0	0	0	0	0	0
Cairo (A)	1.0	1.3	1.2	0.3	1.1	0.0	—tr,	0.0	—	0	0	0	0	0	0	0
Fayoum	—	0.4	0.3	0.2	—	0.0	0.0	0.0	—	0	0	0	0	0	0	0
Minya (A)	0.0	0.0	0.0	0.0	0.0	0.0	—0.1	0.0	—	0	0	0	0	0	0	0
Assyout (A)	0.0	0.0	0.0	0.0	0.0	0.0	—tr.	0.0	—	0	0	0	0	0	0	0
Luxor (A)	0.0	0.2	0.2	0.2	0.1	0.0	—0.1	0.0	—	0	0	0	0	0	0	0
Aswan (A)	0.2	1.0	0.9	0.5	0.5	0.0	0.0	0.0	—	0	0	0	0	0	0	0
Siwa	0.5	0.1	1.8	0.7	0.7	0.8	+0.7	0.8	10	0	1	0	0	0	0	0
Bahariya	0.1	0.3	0.3	0.1	0.1	0.0	—tr,	0.0	—	0	0	0	0	0	0	0
Farafra	—	0.0	0.1	0.0	0.0	0.0	0.0	0.0	—	0	0	0	0	0	0	0
Dakhla	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0	—	0	0	0	0	0	0	0
Kharga	0.0	0.2	0.1	0.0	0.1	0.0	—tr,	0.0	—	0	0	0	0	0	0	0
Tor	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hurghada	0.0	0.2	0.1	0.1	0.1	0.0	0.0	0.0	—	0	0	0	0	0	0	0
Quseir	0.0	0.2	0.6	0.2	0.3	0.0	—tr,	0.0	—	0	0	0	0	0	0	0

Table A 4.– DAYS OF OCCURRENCE OF MISCELLANEOUS WEATHER PHENOMENA

SEPTEMBER 1968

Station	Precipitation				Frost	Thunderstorm	Mist Vis ≥ 1000 metres	Fog Vis < 1000 Metres	Haze Vis ≥1000 Metres	Thick Haze Vis <1000 Metres	Dust or Sandrising Vis ≥ 1000 Metres	Dust or Sandstorm Vis <1000 Metres	Gale	Clear Sky	Cloudy Sky
	Rain	Snow	Ice Pellets	Hail											
Sollum	1	0	0	0	0	1	0	0	0	0	1	0	0	26	0
Mersa Matruh (A)	0	0	0	0	0	0	2	0	0	0	7	0	0	14	0
Alexandria (A)	0	0	0	0	0	0	4	2	0	0	0	0	0	8	0
Port Said (A)	0	0	0	0	0	0	0	0	0	0	0	0	0	—	—
El Arish	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ghiaza	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tanta	0	0	0	0	0	0	0	0	0	0	0	0	0	30	0
Cairo (A)	0	0	0	0	0	0	7	2	5	0	1	1	0	22	0
Fayoum	0	0	0	0	0	0	0	0	0	0	0	0	0	—	—
Minya (A)	0	0	0	0	0	0	0	0	0	0	0	0	0	30	0
Assyout (A)	0	0	0	0	0	0	0	0	0	0	0	1	0	30	0
Luxor (A)	0	0	0	0	0	0	0	0	1	0	1	0	0	30	0
Aswan (A)	0	0	0	0	0	0	0	0	0	0	10	0	0	28	0
Siwa	1	0	0	0	0	0	0	0	0	0	0	0	0	26	0
Bahariya	0	0	0	0	0	0	0	0	0	0	0	0	0	30	0
Farafra	0	0	0	0	0	0	0	0	0	0	0	0	0	—	0
Dakhla	0	0	0	0	0	0	0	0	0	0	3	0	0	30	0
Kharga	0	0	0	0	0	0	0	0	0	0	9	0	0	30	0
Tor	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hurghada	0	0	0	0	0	0	0	0	0	0	6	0	0	30	0
Quseir	0	0	0	0	0	0	0	0	0	0	0	0	0	19	0

Table A 5.—NUMBER IN HOURS OF OCCURRENCES OF CONCURRENT SURFACE WIND SPEED AND DIRECTION RECORDED WITHIN SPECIFIED RANGES

SEPTEMBER — 1966

Station	Calm (hours)	Variable (hours)	Unrecorded (hours)	Wind speed in knots	Number in hours of occurrences of wind blowing from the ranges of directions indicated												
					345 / 014	015 / 044	045 / 074	075 / 104	105 / 134	135 / 164	165 / 194	195 / 224	225 / 254	255 / 284	285 / 314	531 / 244	
Sollum	29	0	0	1—10	41	99	84	39	16	7	3	5	5	31	140	133	60
				11—27	6	14	2	0	0	0	0	0	9	6	7	44	8
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	
				All speeds	47	113	86	39	16	7	3	5	14	37	147	177	68
Mersa Matruh	37	0	0	1—10	99	35	5	5	7	12	13	14	52	112	22	163	53
				11—27	10	6	0	0	0	0	5	2	4	0	10	107	14
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	109	41	5	5	7	12	18	16	56	112	32	270	68
Alexandria	19	0	5	1—10	204	109	16	10	10	14	14	7	6	2	16	165	571
				11—27	41	18	9	0	0	0	0	0	0	0	17	38	123
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	245	127	25	10	10	14	14	7	6	2	33	203	69
Port Said	6	0	70	1—10	87	25	6	5	5	5	7	10	34	42	33	145	414
				11—27	34	13	4	1	2	0	0	1	15	11	21	128	230
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	121	38	10	6	7	5	7	11	49	53	54	273	64
Tanta	55	0	6	1—10	40	13	11	6	0	1	21	52	96	113	156	144	653
				11—27	2	2	2	0	0	0	0	0	0	0	0	0	0
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	42	15	13	6	0	1	21	52	96	113	156	144	653
Cairo	103	0	1	1—10	129	122	45	17	13	1	1	1	7	8	32	111	487
				11—27	60	40	6	2	8	0	0	0	0	0	2	11	129
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	189	162	51	19	21	1	1	1	7	8	34	122	616
Fayoum	7	0	0	1—10	401	225	12	3	2	1	4	2	5	4	5	44	708
				11—27	0	5	0	0	0	0	0	0	0	0	0	0	5
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	401	230	12	3	2	1	4	2	5	4	5	44	713
Minya	25	8	0	1—10	317	67	0	0	1	4	4	5	0	0	8	94	500
				11—27	98	68	0	0	0	0	0	0	2	1	2	16	187
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	415	135	0	0	1	4	4	5	2	1	10	110	687

Table A 5 (*contd.*)—NUMBER IN HOURS OF OCCURRENCES OF CONCURRENT SURFACE WIND SPEED AND DIRECTION RECORDED WITHIN SPECIFIED RANGES

SEPTEMBER — 1968

Station	Calm (hours)	Variable (hours)	Unrecorded (hours)	Wind speed in knots	Number in hours of occurrences of wind blowing from the ranges of directions indicated												All directions
					345 / 014	015 / 044	045 / 074	075 / 104	105 / 134	135 / 164	165 / 194	195 / 224	225 / 254	255 / 284	285 / 314	315 / 344	
Asyout . . . . . (A)	1	0	33	1—10	33	2	2	1	7	1	0	1	1	126	189	130	493
				11—27	48	0	0	0	0	0	0	0	0	2	30	113	193
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**81**	**2**	**2**	**1**	**7**	**1**	**0**	**1**	**1**	**128**	**219**	**243**	**686**
Luxor . . . . . (A)	5	1	0	1—10	61	12	8	15	17	59	164	32	28	85	156	64	701
				11—27	0	0	0	0	0	0	0	0	0	0	9	4	13
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**61**	**12**	**8**	**15**	**17**	**59**	**164**	**32**	**28**	**85**	**165**	**68**	**714**
Aswan . . . . . (A)	0	0	0	1—10	275	37	6	0	0	0	0	0	1	2	30	136	487
				11—27	156	6	0	0	0	0	0	0	0	0	8	63	233
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**431**	**43**	**6**	**0**	**0**	**0**	**0**	**0**	**1**	**2**	**38**	**199**	**720**
Siwa	23	0	0	1—10	55	103	76	44	27	15	8	18	34	75	102	105	662
				11—27	1	11	1	0	0	0	2	0	1	0	8	11	35
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**56**	**114**	**77**	**44**	**27**	**15**	**10**	**18**	**35**	**75**	**110**	**116**	**697**
Dakhla	9	5	0	1—10	62	16	13	12	12	17	20	18	45	85	134	203	637
				11—27	22	2	0	0	0	0	0	0	0	3	3	39	69
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**84**	**18**	**13**	**12**	**12**	**17**	**20**	**18**	**45**	**88**	**137**	**242**	**706**
Kharga	13	7	20	1—10	98	22	1	0	0	2	3	1	6	7	16	164	320
				11—27	228	7	0	1	1	0	0	0	0	2	4	117	360
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**326**	**29**	**1**	**1**	**1**	**2**	**3**	**1**	**6**	**9**	**20**	**281**	**680**
Hurghada	5	0	3	1—10	10	7	2	2	1	1	4	0	0	0	39	44	110
				11—27	194	49	0	0	0	0	0	0	0	0	90	260	593
				28—47	2	0	0	0	0	0	0	0	0	0	0	7	9
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**206**	**56**	**2**	**2**	**1**	**1**	**4**	**0**	**0**	**0**	**129**	**311**	**712**
Quseir	3	1	7	1—10	68	7	5	1	0	0	2	2	6	38	167	137	433
				11—27	130	1	0	0	0	0	0	0	0	3	9	133	276
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**198**	**8**	**5**	**1**	**0**	**0**	**2**	**2**	**6**	**41**	**176**	**270**	**709**

UPPER AIR CLIMATOLOGICAL DATA

Table B 1.—MONTHLY MEANS, ABSOLUTE HIGHER AND LOWER VALUES OF ALTITUDE, AIR TEMPERATURE AND DEW POINT AT STANDARD AND SELECTED PRESSURE SURFACES

SEPTEMBER — 1968

Station	Pressure Surface (Millibar)	Altitude of Pressure Surface (gpm)				Temperature (°C)				Dew Point (°C)	
		N	Mean	Highest	Lowest	N	Mean	Highest	Lowest	N	Mean
Mersa Matruh 0000 U.T.	Surface	28	*1011mb.	*1014mb.	*1008mb.	28	21.2	23.7	19.0	28	17.1
	1000	28	120	149	97	28	21.9	24.4	19.9	28	17.7
	850	28	1518	1538	1496	28	15.2	18.8	9.3	27	5.7
	700	26	3144	3173	3115	26	7.7	10.4	3.5	16	—3.0
	600	26	4398	4427	4369	26	1.0	3.0	—2.4	12	—9.5
	500	26	5838	5868	5808	26	— 8.1	— 5.3	—10.5	9	—18.1
	400	26	7530	7567	7477	26	—20.5	—18.3	—25.0	8	—30.2
	300	25	9594	9649	9528	25	—35.6	—32.3	—38.1	4	—45.1
	250	24	10811	10906	10761	24	—43.4	—39.9	—48.5	2	—52.3
	200	22	12316	12381	12222	22	—52.9	—50.8	—60.0	1	—59.8
	150	21	14126	14196	13991	21	—63.3	—60.8	—66.5	—	—
	100	18	16569	16623	16432	18	—69.0	—66.4	—72.0	—	—
	70	13	18734	18800	18550	13	—63.5	—60.5	—66.8	—	—
	60	11	19695	19753	19501	11	—60.6	—58.5	—62.9	—	—
	50	9	20825	20875	20642	9	—58.9	—56.5	—61.3	—	—
	40	7	22223	22290	22043	7	—56.7	—55.5	—58.8	—	—
	30	3	24026	24138	23873	3	— 53.2	— 52.1	—54.6	—	—
	20	3	26653	26778	26505	3	—50.7	—49.0	—52.0	—	—
	10	—	—	—	—	—	—	—	—	—	—
Helwan 0000 U.T.	Surface	30	*997mb.	*1000mb.	*994mb.	30	22.1	26.8	18.3	30	15.9
	1000	30	112	140	84	3	20.6	22.2	18.9	3	15.8
	850	30	1513	1536	1495	30	16.9	22.6	10.4	30	3.4
	700	30	3151	3173	3128	30	10.4	12.8	7.7	30	—8.6
	600	30	4416	4450	4389	30	2.7	5.0	—1.0	30	—16.1
	500	30	5866	5916	5825	30	—6.7	—3.0	—10.0	30	—24.0
	400	30	7568	7638	7505	30	—19.3	—16.1	—22.5	30	—34.9
	300	30	9647	9740	9570	30	—33.6	—30.3	—38.0	30	—46.8
	250	29	10904	11000	10826	29	—42.6	—39.7	—46.9	29	—54.5
	200	28	12380	12465	12296	28	—52.5	—50.9	—55.7	28	—63.4
	150	26	14191	14268	14087	26	—63.9	—61.6	—66.9	—	—
	100	22	16629	16705	16497	22	—71.2	—68.5	—74.4	—	—
	70	18	18778	18890	18650	18	—65.2	—61.6	—69.5	—	—
	60	16	19725	19838	19584	16	—61.5	—58.8	—64.4	—	—
	50	15	20863	20989	20726	15	—58.6	—56.0	—64.7	—	—
	40	13	22284	22413	22157	13	—55.8	—54.0	—58.2	—	—
	30	13	24128	24276	23983	13	—53.3	—50.5	—55.0	—	—
	20	5	26782	26940	26637	5	—49.9	—49.0	—51.0	—	—
	10	—	—	—	—	—	—	—	—	—	—
Aswan 0000 U.T.	Surface	30	*987mb.	*989mb.	*985mb.	30	27.0	31.2	24.0	30	7.5
	1000	30	74	96	57	—	—	—	—	—	—
	850	30	1509	1523	1485	30	24.2	27.3	20.1	30	0.9
	700	30	3171	3193	3125	30	12.1	15.6	9.1	30	—8.5
	600	29	4447	4462	4411	29	2.1	11.5	—2.0	28	—13.1
	500	27	5887	5922	5849	27	—5.9	—3.4	—11.1	27	—25.6
	400	27	7600	7640	7546	27	—17.2	—13.5	—20.4	27	—34.9
	300	27	9198	9774	9622	27	—32.1	—30.0	—34.3	27	—47.6
	250	27	10956	11016	10905	27	—41.4	—39.1	—44.5	27	—55.4
	200	27	12438	12507	12347	27	—52.7	—50.8	—55.6	27	—64.5
	150	27	14243	14363	14146	27	—66.0	—63.8	—67.5	—	—
	100	27	16631	16737	16541	27	—76.3	—72.5	—79.8	—	—
	70	23	18730	18860	18629	23	—68.7	—64.2	—73.8	—	—
	60	22	19662	19804	19567	22	—64.0	—61.0	—70.4	—	—
	50	21	20793	20942	20691	21	—60.8	—56.7	—64.2	—	—
	40	17	22175	22274	22078	17	—58.4	—55.3	—61.3	—	—
	30	17	24004	24087	23888	17	—54.4	—52.8	—57.3	—	—
	20	7	26638	26712	26534	7	—51.1	—45.8	—56.6	—	—
	10	—	—	—	—	—	—	—	—	—	—

N = The number of cases the element has been observed during the month.
The atmospheric pressure corrected to the elevation of the radiosonde station.

UPPER AIR CLIMATOLOGICAL DATA

Table B 1 (*contd.*)—MONTHLY MEANS, ABSOLUTE HIGHER AND LOWER VALUES OF ALTITUDE, AIR TEMPERATURE AND DEW POINT AT STANDARD AND SELECTED PRESSURE SURFACES

SEPTEMBER — 1968

Station	Pressure Surface (Millibar)	Altitude of Pressure Surface (gpm)				Temperature (°C)				Dew Point (°C
		N	Mean	Highest	Lowest	N	Mean	Highest	Lowest	N	Mean
Mersa Matruh 1200 U.T.	Surface	30	*1011mb.	*1014mb.	*1008mb.	30	27.2	31.4	25.4	30	19.
	1000	30	124	150	99	30	26.1	30.8	24.2	30	18.
	850	30	1531	1565	1500	30	16.2	20.6	10.1	30	5.
	700	30	3162	3200	3125	30	8.8	11.7	4.0	17	—3.
	600	29	4422	4454	4385	29	2.2	4.7	—1.9	7	—12.
	500	24	5868	5902	5824	24	—7.2	—4.6	—9.6	4	—23.
	400	23	7567	7620	7516	23	—19.5	—15.9	—23.6	4	—31.
	300	21	9634	9713	9537	21	—34.9	—31.5	—37.3	—	—
	250	22	10892	10969	10809	22	—42.5	—40.1	—45.4	—	—
	200	21	12369	12456	12290	21	—51.8	—47.0	—56.4	—	—
	150	20	14185	14257	14114	20	—61.4	—58.0	—65.0	—	—
	100	20	16651	16718	16576	20	—68.1	—64.0	—73.2	—	—
	70	16	18822	18900	18750	16	—62.0	—58.8	—69.8	—	—
	60	14	19788	19859	19702	14	—57.8	—55.4	—60.0	—	—
	50	13	20951	21012	20879	13	—55.7	—52.9	—58.3	—	—
	40	11	22405	22555	22317	11	—52.5	—50.5	—54.0	—	—
	30	10	24266	24338	24184	10	—49.4	—47.7	—51.7	—	—
	20	7	26958	27018	26892	7	—44.2	—42.0	—46.7	—	—
	10	—	—	—	—	—	—	—	—	—	—
Helwan 1200 U.T.	Surface	30	*996mb.	*999mb.	*993mb.	30	30.7	37.1	25.9	30	13.
	1000	30	101	124	18	—	—	—	—	—	—
	850	30	1524	1543	1504	30	17.8	24.2	12.6	30	4.
	700	30	3165	3185	3134	30	10.8	13.2	6.3	30	—12.
	600	30	4432	4457	4384	30	2.9	6.2	—4.3	30	—19.
	500	29	5924	5970	5814	29	—5.9	—1.7	—10.0	29	—26.
	400	28	7579	7663	7502	28	—18.5	—15.0	—22.8	28	—37.
	300	27	9688	9769	9558	27	—32.4	—28.5	—35.1	27	—48.
	250	27	10950	11045	10802	27	—41.5	—38.2	—45.1	27	—55.
	200	27	12431	12543	12274	27	—52.0	—49.7	—55.7	27	—62.
	150	27	14251	14378	14074	27	—62.6	—60.8	—65.4	—	—
	100	23	16699	16790	16483	23	—71.7	—67.5	—74.4	—	—
	70	21	18841	19000	18630	21	—64.1	—62.3	—67.2	—	—
	60	19	19795	19943	19591	19	—60.5	—55.9	—63.2	—	—
	50	17	20938	21076	20736	17	—56.9	—50.0	—59.2	—	—
	40	15	22353	22495	22158	15	—53.4	—51.9	—56.2	—	—
	30	13	24192	24350	24020	13	—50.3	—47.7	—54.7	—	—
	20	5	26904	27020	26660	5	—46.1	—44.7	—47.8	—	—
	10	—	—	—	—	—	—	—	—	—	—
Aswan 1200 U.T.	Surface	29	*986mb.	*988mb.	*984mb.	29	37.8	42.4	33.8	29	7.
	1000	29	66	85	35	—	—	—	—	—	—
	850	29	1518	1537	1497	29	25.0	30.3	19.8	29	—0.
	700	28	3185	3212	3152	28	12.7	15.8	10.2	27	—11.
	600	26	4456	4487	4425	26	2.3	6.5	—2.2	25	—21.
	500	26	5905	5938	5875	26	—5.6	—3.9	—7.7	26	—27.
	400	24	7622	7664	7582	24	—16.2	—14.4	—18.5	24	—35.
	300	24	9726	9774	9674	24	—30.9	—28.5	—34.2	24	—48.
	250	24	10996	11054	10943	24	—40.2	—37.2	—43.3	24	—56.
	200	23	12486	12557	12417	23	—51.5	—46.9	—54.0	23	—65.
	150	23	14300	14387	14213	23	—64.3	—59.9	—67.2	—	—
	100	23	16703	16797	16617	23	—75.9	—71.2	—79.0	—	—
	70	23	18799	18920	18690	23	—67.3	—60.0	—74.5	—	—
	60	21	19745	19852	19610	21	—63.5	—59.5	—70.1	—	—
	50	21	20879	21007	20738	21	—58.8	—55.0	—67.0	—	—
	40	17	22292	22406	22136	17	—55.1	—50.8	—60.0	—	—
	30	14	24152	24263	24003	14	—51.8	—46.3	—56.5	—	—
	20	10	26802	26997	26650	10	—46.6	—42.2	—53.2	—	—
	10	—	—	—	—	—	—	—	—	—	—

N = The number of cases the element has been observed during the month.

* The atmospheric pressure corrected to the elevation of the radiosonde station.

Table B 2.—MEAN AND EXTREME VALUES OF THE FREEZING LEVEL AND THE TROPOPAUSE, THE HIGHEST WIND SPEED IN THE UPPER AIR

SEPTEMBER — 1968

	Station	Freezing Level									First Tropopause									Highest wind speed			
		Mean			Highest			Lowest			Mean			Highest			Lowest						
		Altitude (gpm)	Pressure (mb.)	Dew point (°C)	Altitude (gpm)	Pressure (mb.)	Dew point (°C)	Altitude (gpm)	Pressure (mb.)	Dew point (°C)	Altitude (gpm)	Pressure (mb.)	Temperature (°C)	Altitude (gpm)	Pressure (mb.)	Temperature (°C)	Altitude (gpm)	Pressure (mb.)	Temperature (°C)	Altitude (gpm)	Pressure (mb.)	Direction (000—360)	Speed in Knots
0000 U.T.		(N)	(N)	(N)							(N)	(N)	(N)										
	M. Matruh (A)	4528 (26)	589 (26)	—10.1 (12)	4860	568	—	3550	665	— 7.9	15085 (16)	129 (16)	—67.4 (16)	16623	100	—67.4	12590	188	—62.7	11620	220	230	118
	Helwan . . .	4836 (30)	566 (30)	—18.3 (30)	5280	542	—11.9	4260	610	—14.2	15784 (20)	121 (20)	—69.6 (20)	17070	92	—73.0	14760	136	—68.4	13050	182	230	110
	Aswan . . (A)	4717 (28)	581 (28)	—13.8 (25)	5520	526	—26.0	4200	614	—10.3	16422 (25)	105 (25)	—76.6 (25)	17600	85	—80.2	15200	128	—72.6	23730	34	110	50
1200 U.T.		(N)	(N)	(N)							(N)	(N)	(N)										
	M. Matruh (A)	4755 (26)	576 (26)	—12.9 (7)	5220	546	—18.3	4130	623	—	15486 (20)	122 (20)	—67.3 (20)	16699	100	—73.2	13770	158	—60.1	12950	180	240	110
	Helwan . . .	4965 (29)	561 (29)	—21.6 (29)	5670	515	—20.2	4060	615	—13.5	15944 (23)	113 (23)	—70.2 (23)	16849	100	—69.7	14600	140	—68.0	11760	222	235	108
	Aswan . . (A)	4836 (25)	573 (35)	—17.8 (25)	5300	540	—21.4	4890	604	—15.5	17421 (23)	100 (23)	—76.0 (21)	17920	82	—78.0	15800	117	—71.2	22810	38	085	52

N — The Number of cases the element has been observed during the month.

Table B 3.—NUMBER OF OCCURRENCES OF WIND DIRECTION WITHIN SPECIFIED RANGES AND THE MEAN SCALAR WIND SPEED AT THE STANDARD AND SELECTED PRESSURE SURFACES.

MERSA MATRUH (A)—SEPTEMBER 1969

Station	Prussure Surfaee (Millibar)	Wind between specified ranges of direction (000—360°)																						Number of calm winds	Total number of observations (TN)	Mean scalar wind speed (knots)
		345 / 014		015 / 044		045 / 074		075 / 104		105 / 134		135 / 164		165 / 194		195 / 224		225 / 254		255 / 284		285 / 314		315 / 344				
		N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m			
0000 U.T.	Surface	1	11	0	—	0	—	0	—	0	—	1	9	3	7	0	—	6	7	9	6	3	11	4	10	1	28	8
	1000	3	9	0	—	0	—	0	—	2	8	1	10	2	6	1	7	0	—	3	11	6	11	10	15	0	28	11
	850	5	13	1	24	1	10	2	11	0	—	0	—	1	9	0	—	2	15	1	14	10	19	5	14	0	28	16
	700	2	25	0	—	2	14	1	5	0	—	0	—	0	—	0	—	1	9	8	23	8	21	4	16	0	26	20
	600	2	16	0	—	0	—	1	10	1	11	0	—	0	—	0	—	0	—	12	24	8	22	2	26	0	26	21
	500	2	13	0	—	0	—	1	14	1	6	0	—	0	—	0	—	4	22	8	29	9	21	1	30	0	26	22
	400	1	10	0	—	0	—	0	—	0	—	1	14	1	28	0	—	5	21	12	30	3	30	3	30	0	26	27
	300	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	26	14	37	5	40	3	47	1	26	0	25	37
	250	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	10	46	9	45	4	38	0	—	0	23	44
	200	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	53	12	51	5	49	2	50	0	—	0	21	51
	150	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	70	13	52	4	42	2	71	0	—	0	21	53
	100	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	17	8	31	5	29	1	60	0	—	0	16	31
	70	0	—	0	—	1	18	1	6	0	—	0	—	0	—	0	—	2	14	0	--	1	67	1	15	4	10	14
	60	1	2	1	20	2	18	1	20	0	—	1	10	0	—	0	—	1	22	1	60	0	—	0	—	1	9	19
	50	0	—	0	—	3	12	0	—	0	—	1	18	0	—	1	7	1	2	0	—	0	—	0	—	1	7	9
	40	0	—	0	—	1	30	0	—	0	—	0	—	0	—	0	—	1	22	0	—	0	—	0	—	0	2	26
	30	0	—	0	—	1	18	0	—	0	—	0	—	0	—	0	—	1	10	0	—	0	—	0	—	0	2	14
	20	0	—	0	—	0	—	0	—	1	6	0	—	0	—	0	—	0	—	0	—	0	—	0	-	0	1	6
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	-	-	—	—
1200 U.T.	Surface	7	12	2	10	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	16	3	16	17	13	0	30	13
	1000	9	13	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	14	0	—	20	17	0	30	16
	850	0	—	1	13	2	12	0	—	0	—	0	—	0	—	0	—	2	16	8	13	10	16	7	15	0	30	15
	700	2	24	0	—	0	—	1	11	1	16	0	—	1	15	0	—	8	16	4	16	6	26	5	15	0	28	19
	600	1	21	0	—	1	15	0	—	1	6	0	—	0	—	0	—	8	19	7	25	8	24	1	7	0	27	20
	500	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	20	7	29	8	28	5	25	2	14	0	24	23
	400	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	28	5	37	10	34	5	26	1	13	0	23	31
	300	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	10	7	53	8	36	5	29	0	—	0	21	39
	250	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	11	46	10	49	1	27	0	-	0	22	46
	200	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	78	7	50	10	51	1	53	0	—	0	19	52
	150	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	54	8	55	9	39	0	—	0	—	0	19	47
	100	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	40	12	34	2	15	0	—	0	—	0	16	32
	70	0	—	1	10	0	—	2	12	2	9	2	9	0	—	1	11	3	17	0	—	0	—	0	—	2	13	10
	60	0	—	0	—	0	—	3	17	3	8	1	6	2	18	0	—	1	17	0	—	1	14	0	—	0	11	14
	50	0	—	0	—	1	9	5	17	3	17	0	—	0	—	0	—	1	9	0	—	0	—	0	—	0	10	16
	40	0	—	0	—	0	—	7	18	2	13	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	9	17
	30	0	—	0	—	1	11	4	23	1	18	1	22	0	—	0	—	0	—	0	—	0	—	0	—	1	8	18
	20	0	—	0	—	2	16	1	32	1	19	1	17	0	—	0	—	0	—	0	—	0	—	0	—	0	5	20
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

N = The number of cases the element has been observed during the month.

TN = The total number of cases the wind has been observed for all directions during the month.

Table B 3 (contd.)—NUMBER OF OCCURRENCES OF WIND DIRECTION WITHIN SPECIFIED RANGES AND THE MEAN SCALAR WIND SPEED AT THE STANDARD AND SELECTED PRESSURE SURFACES.

HELWAN — SEPTEMBER 1968

Station	Pressure Surface (Millibar)	Wind between specified ranges of direction (000–360°)																						Number of calm winds	Total number of observations (TN)	Mean scalar wind speed (knots)
		345 / 014		015 / 044		045 / 074		075 / 104		105 / 135		135 / 164		165 / 194		195 / 224		225 / 254		255 / 284		285 / 314		315 / 344				
		N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m			
0000 U.T.	Surface	17	7	7	9	4	6	1	15	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	3	0	30	7
	1000	3	9	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	3	9
	850	4	15	2	11	2	12	0	—	1	7	0	—	0	—	0	—	2	2	2	14	6	18	11	11	0	30	13
	700	0	0	0	—	0	—	1	3	0	—	2	13	0	—	0	—	5	12	6	19	10	16	6	14	0	30	15
	600	0	0	0	—	0	—	0	—	0	—	1	19	1	13	2	18	5	16	14	18	4	16	3	17	0	30	16
	500	0	0	0	—	0	—	0	—	0	—	1	8	0	—	3	20	12	21	11	22	1	12	2	12	0	30	20
	400	0	0	0	—	0	—	0	—	0	—	0	—	0	—	2	18	16	28	12	25	0	—	0	—	0	30	26
	300	0	0	0	—	0	—	0	—	0	—	0	—	0	—	2	36	19	46	7	37	1	23	0	—	0	29	41
	250	0	0	0	—	0	—	0	—	0	—	0	—	0	—	3	60	19	48	7	42	0	—	0	—	0	29	46
	200	0	0	0	—	0	—	0	—	0	—	0	—	0	—	0	—	20	56	6	44	1	36	0	—	0	27	52
	150	0	0	0	—	0	—	0	—	0	—	0	—	0	—	2	62	14	53	6	41	0	—	1	20	0	23	49
	100	0	0	0	—	0	—	0	—	1	16	0	—	0	—	4	23	1	21	2	18	0	—	0	—	0	8	20
	70	0	0	0	—	0	—	0	—	0	—	2	22	1	10	0	—	0	—	0	—	0	—	0	—	0	3	18
	60	0	0	0	—	1	4	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	1	4
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1200 U.T.	Surface	12	11	2	13	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	6	8	9	10	1	30	10
	1000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	850	8	10	4	9	2	6	2	6	1	4	0	—	0	—	1	13	1	4	1	16	2	18	8	9	0	30	9
	700	0	—	0	—	0	—	0	—	0	—	1	9	1	14	3	13	9	17	7	10	5	17	4	12	0	30	14
	600	0	—	0	—	0	—	0	—	0	—	1	9	1	13	3	16	13	17	8	17	3	15	0	—	0	29	16
	500	0	—	0	—	0	—	0	—	0	—	0	—	3	11	3	16	12	26	7	18	2	22	2	10	0	29	20
	400	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	18	27	6	24	3	15	0	—	0	27	25
	300	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	18	42	8	26	1	27	0	—	0	27	37
	250	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	46	16	47	8	37	1	17	0	—	0	27	43
	200	0	—	0	—	0	—	0	—	0	—	0	—	0	—	3	49	16	47	7	36	0	—	0	—	0	26	47
	150	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	56	16	42	4	30	0	—	0	—	0	22	41
	100	0	—	0	—	0	—	1	18	0	—	0	—	2	16	1	7	3	20	1	23	0	—	0	—	0	8	18
	70	0	—	0	—	0	—	2	18	2	8	1	30	0	—	0	—	0	—	0	—	0	—	0	—	0	5	16
	60	0	—	0	—	0	—	0	—	3	27	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	3	27
	50	0	—	0	—	0	—	0	—	3	21	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	3	21
	40	0	—	0	—	1	27	0	—	1	21	0	—	1	14	0	—	0	—	0	—	0	—	0	—	0	3	21
	30	0	—	0	—	1	22	0	—	1	35	1	20	0	—	0	—	0	—	0	—	0	—	0	—	0	3	26
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

N = The number of cases the wind has been observed for the range of direction during the month.

TN = The total number of cases the wind has been observed for all directions during the month.

Table B 3 (*contd.*)— NUMBER OF OCCURRENCES OF WIND DIRECTION WITHIN SPECIFIED RANGES AND THE MEAN SCALAR WIND SPEED AT THE STANDARD AND SELECTED PRESSURE SURFACES.

ASWAN (A) — SEPTEMBER 1968

Station	Prussure Surface (Millibar)	Wind between specified ranges of direction (000—360)°																						Number of calm winds	Total number of observations (TN)	Mean speed wind speed (onots)
		345 / 014		015 / 044		045 / 074		075 / 104		105 / 135		135 / 164		165 / 194		195 / 224		225 / 254		255 / 284		285 / 314		315 / 344				
		N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m			
0000 U.T.	Surface	16	16	1	7	1	25	0	—	0	—	0	—	0	—	0	—	0	—	0	—	4	12	8	9	0	30	10
	1000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	850	2	15	2	14	6	13	2	13	2	13	3	8	1	4	1	8	5	9	1	9	1	6	3	12	0	29	11
	700	3	11	0	—	1	18	0	—	0	—	0	—	0	—	5	10	5	14	10	14	2	10	3	7	0	29	12
	600	1	2	1	18	0	—	0	—	0	—	0	—	0	—	3	12	10	18	6	16	4	10	2	11	0	27	15
	500	1	14	1	8	0	—	0	—	5	9	6	6	1	18	2	8	2	20	3	7	3	7	2	4	0	26	9
	400	0	—	0	—	1	2	1	5	2	8	2	3	5	6	2	14	7	10	3	8	2	11	1	5	0	26	8
	300	0	—	0	—	0	—	1	5	0	—	0	—	1	20	11	16	6	29	5	7	2	10	0	—	0	26	14
	250	0	—	0	—	0	—	0	—	0	—	1	7	4	14	11	14	5	16	3	15	2	10	0	—	0	26	14
	200	1	10	0	—	0	—	0	—	0	—	3	12	4	14	11	19	6	15	1	30	0	—	0	—	0	26	17
	150	1	14	0	—	1	14	0	—	2	10	5	18	11	29	6	17	0	—	0	—	0	—	0	—	0	26	22
	100	0	—	0	—	1	16	4	9	3	12	9	19	6	19	1	5	1	9	0	—	0	—	0	—	0	25	16
	70	0	—	0	—	0	—	5	17	13	18	2	16	0	—	0	—	0	—	0	—	0	—	0	—	0	20	18
	60	0	—	0	—	4	16	12	18	3	20	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	19	18
	50	0	—	0	—	4	23	13	21	1	14	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	18	21
	40	0	—	1	18	2	27	11	24	1	15	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	15	24
	30	0	—	1	42	1	24	7	24	2	33	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	11	27
	20	0	—	0	—	1	28	2	38	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	3	35
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1200 U.T.	Surface	21	10	4	9	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	8	2	10	0	29	10
	1000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	850	3	13	1	12	1	12	2	4	2	6	2	8	1	5	1	1	4	6	0	—	7	11	5	16	0	29	10
	700	1	8	1	2	3	9	0	—	1	8	1	6	1	19	2	18	12	15	3	12	1	14	1	20	0	27	13
	600	1	25	0	—	0	—	0	—	1	3	0	—	1	7	4	15	8	15	6	12	2	12	3	10	0	26	13
	500	0	—	0	—	3	12	2	6	2	6	0	—	4	7	5	13	3	7	4	11	0	—	2	6	0	25	9
	400	0	—	0	—	3	6	1	4	3	8	4	6	1	7	2	20	7	15	3	9	0	—	0	—	0	24	10
	300	1	6	0	—	1	2	2	4	0	—	1	5	7	15	5	11	6	13	0	—	0	—	1	5	0	24	12
	250	0	—	0	—	0	—	2	4	0	—	2	6	8	18	5	18	3	14	3	24	1	4	0	—	0	24	15
	200	0	—	0	—	0	—	0	—	1	8	1	13	8	17	7	20	6	14	0	—	0	—	0	—	0	23	17
	150	0	—	0	—	1	3	0	—	0	—	5	16	10	33	2	14	3	17	1	7	1	12	0	—	0	23	22
	100	0	—	0	—	0	—	3	15	8	19	6	21	6	21	0	—	0	—	0	—	0	—	0	—	0	23	20
	70	0	—	0	—	2	22	11	22	9	21	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	22	21
	60	0	—	0	—	0	—	14	22	6	25	0	—	0	—	0	—	0	—	1	11	0	—	0	—	0	21	22
	50	0	—	0	—	1	22	10	29	8	26	1	16	0	—	0	—	0	—	0	—	0	—	0	—	0	20	27
	40	0	—	0	—	0	—	8	24	6	29	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	14	26
	30	0	—	0	—	0	—	8	24	1	40	1	28	0	—	0	—	0	—	0	—	0	—	0	—	0	10	26
	20	0	—	0	—	0	—	3	30	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	3	30
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

N = The number of cases the wind has been observed for the range of direction during the month.

TN = The total number of cases the wind hasbeen observed for all directions during the month.

REVIEW OF AGRO-METEOROLOGICAL STATIONS

EL-KASR — SEPTEMBER 1968

This month was slightly warmer and drier than normal. The maximum air temperatures of the month were all about normal except on the 10th, 24th and 25th when the maxima were above normal. The highest maximum for the month occurred on the 10th (35.7°C).

The extreme maximum soil temperatures were lower than the corresponding values of last September for all depths between 2 and 50 cm, while for 100 cm depth it was the same as for September 1967. The differences ranged between 0.2 °C at 50 cm depth and 2.4 °C at 2 cm depth.

The extreme minimum soil temperatures were lower than the corresponding values of last September for all depths between 2 and 50cm, while for 100cm depth it was the same as for September 1967. The differences ranged between 0.2°C at 50 cm depth and 0.9°C at 5 cm depth.

The total actual duration of bright sunshine was 8.4 hours lower than the corresponding value of last September.

TAHRIR — SEPTEMBER 1968

This month was cooler and slightly more humid than normal. The month was characterized by four heat waves on the 1st and in the periods (10th - 11th), (17th -20th) and on 26th. The 1st heat wave was the most excessive and yielded the highest maximum air temperature of the month 36.8°C. The month was also characterized by three cold waves in the periods (12th - 13th), (22nd - 24th) and (27th - 30th)

The extreme maximum soil temperatures at depths 2,50 and 100 cm were 1.2°C, 0.6°C, 0.7°C respectively lower than the corresponding values of last September; while at 5,10 and 20 cm depth the values were 0.2°C, 0.1°C and 0.3°C repsectively higher than the corresponding values of September 1967.

The extreme minimum soil temperatures at all depths between 2 and 100cm were lower than the corresponding values of last September. The differences ranged between 0.7°C at both 50 and 100 cm depths and 2.0°C at 2 cm depth.

The mean daily Pan evaporation was 0.19 mm higher than the corresponding value of September 1967. Total actual duration of bright sunshine was 8.1 hours higher than the corresponding value of last September.

BAHTIM — SEPTEMBER 1968

This month was cooler and drier than last September. The maximum air temperatures were below average all days of month expcet for the 1st, 26th and for the periods (10th-11th), (17th-20th) when heat waves prevailed.

The highest maximum air temperature occurred on the 11th (37.3°C).

The extreme maximum soil temperatures at depths 5,10,20 and 100 cm were higher than the corresponding values of last September. The differences ranged between

0.5°C at 100 cm depth and 5.7°C at 5cm depth. The extreme maximum soil temperature at 2cm depth was 2.3°C lower than the corresponding value of September 1967, while at 50 cmdepth the value was the same as for last september. The extreme minimum soil temperatures at 2,5 and 10 cm were 1.4°C 0.4°C and 1.3°C respectively lower than the corresponding values of last Septmeber, while at depths 20,50 and 100 cm the values were 0.1°C 0.6°C and 0.7°C respectively higher than corresponding values of September 1967.

The mean daily Pan evaporation was 0.36 mm higher than the corresponding value of last September. Total actual duration of bright sunshine was 2.8 hours lower than the corresponding value of September 1967.

KHARGA — SEPTEMBER 1968

This month was warmer and drier than normal. The month was characterized by four heat waves during the periods (1st-3rd), 11th, (17th-21st) and (26th-27th). The second heat wave was the most excessive and yielded the highest maximum air temperature of the month (43.4°C). The month was also characterized by four cold waves during the periods (5th-9th), (12th-15th), 23rd and (28th-30th).

The extreme maximum soil temperatures at depths between 2cm and 20 cm were lower than corresponding values of last September, the differences ranged between 0.2°C at 20 cm depth and 2.8°C at 5cm depth. At 5o and 100 cm depth the extreme maxima were 0.1°C and 0.3°C respectively higher than the corresponding values of last September

The extreme minimum soil temperatures were higher than the corresponding values of last September at all depths. The differences ranged between 0.4°C at both 20,50 cm depth and 1.9°C at 2 cm depth.

The mean daily Pan evaporation was 0.26mm lower than corresponding value of last September. Total actual duration of bright sunshine was 1.9 hours lower than corresponding value of September 1967.

Note. — During this month recording charts of the mercury in steel hygrograph were not available at Tahrir and Bahtim & Kharga centres. For these Centres mean of the day of air temperature, relative humidity and vapour pressure are calculated using the following equations :—

Mean of the day of Air temperature
= [(0600 + 1200 + 1800) U.T. dry bulb thermometer readings + minimum air temperature] ÷ 4.

Mean of the day of Vapour pressure
= (0600 + 1200 + 1800) U.T. observation ÷ 3.

Mean of the day of Relative Humidity
= (0600 + 1800) U.T. observation ÷ 2.

Table C 1.—AIR TEMPERATURE AT 1½ METRES ABOVE GROUND

SEPTEMBER — 1968

Station	Air Temperature (°C)					Mean Duration in hours of daily air temperature above the following values									
	Mean Max.	Mean Min.	Mean of the day	Night time mean	Day time mean	-5°C	0°C	5°C	10°C	15°C	20°C	25°C	30°C	35°C	40°C	45°C
Elkasr	28.7	19.0	24.1	21.6	26.5	24.0	24.0	24.0	24.0	24.0	20.2	10.0	0.3	0.1	0.0	0.0
Tahrir	32.6	17.6	24.1	—	28.2	—	—	—	—	—	—	—	—	—	—	—
Bahtim	32.2	16.1	23.4	—	28.0	—	—	—	—	—	—	—	—	—	—	—
Kharga	36.8	21.8	29.7	26.6	32.8	—	—	—	—	—	—	—	—	—	—	—

Table C 2.—EXTREME VALUES OF AIR TEMPERATURE AT 1½ METRES ABOVE GROUND, ABSOLUTE MINIMUM AIR TEMPERATURE AT 5cms ABOVE GROUND OVER DIFFERENT FIELDS.

SEPTEMBER — 1968

Station	Max. Temp. at 1½ metres (°C)				Min. Temp. at 1½ metres (°C)				Min. Temp. at 5 cms. above (°C)			
	Hight est		Lowest		Hight est		Lowest		Dry soil		Gress	
	Value	Date	Value	Date	Value	Date	Value	Date	Value	Date	Value	Value
Elkasr	35.7	10	26.4	30	23.5	21	16.1	16	12.8	16	—	—
Tahrir	36.8	1	28.7	29	21.0	11	14.2	29	12.8	24,29	—	—
Bahtim	37.3	11	29.3	29,30	20.0	17	12.4	30	10.2	30	—	—
Kharga	43.4	11	31.8	29,30	26.5	4	16.7	17	14.5	17	—	—

Table C 3.—(SOLAR + SKY) RADIATION, DURATION OF BRIGHT SUNSHINE, RELATIVE HUMIDITY, VAPOUR PRESSURE AT 1½ METRES ABOVE GROUND, EVAPORATION & RAINFALL.

SEPTEMBER — 1968

Station	(Solar + Sky) Radiation gm. cal/cm²	Duration of Bright Sunshine (hours)			Relative Humidity				Vapour pressure (mms)						Evaporation (mms)		Rainfall (mms)		
		Total Actual monthly	Total Possibly monthly	%	Mean of day	1200 U.T.	Lowest	Date	Mean of day	1200 U.T.	Highest	Date	Lowest	Date	Piche	Pan class A	Total Amount Monthly	Max. Fall in one day	Date
Elkasr	458.2	324.6	370.7	88	68	60	22	25	15.4	16.8	21.1	1	9.2	25	7.4	11.59	Tr.	Tr.	10
Tahirr	510.7	311.1	370.2	84	74	44	22	20	16.0	15.0	22.4	18	8.9	20	7.5	8.33	0.0	0.0	—
Bahtim	535.2	320.6	370.2	87	73	40	22	20	14.9	13.5	19.6	1	9.7	20	7.3	8.13	0.0	0.0	—
Kharga	498.7	340.1	368.5	92	31	20	10	21	9.2	8.8	15.2	12	5.0	21	22.5	18.60	0.0	0.0	—

Table C 4. EXTREME SOIL TEMPERATURE AT DIFFERENT DEPTHS (cms) IN DIFFERENT FIELDS

SEPTEMBER — 1968

Station	Highest (H) Lowest (L)	Extreme soil temperature (°C) in dry field at different depths (cms.)								Extreme soil temperature (°C) in grass field at different depths (cms.)							
		2	5	10	20	50	100	200	300	2	5	10	20	50	100	200	30
Elkasr	H	40.3	37.2	33.4	29.1	28.4	27.0	23.4	—	—	—	—	—	—	—	—	—
	L	22.3	21.0	22.4	25.1	26.3	26.2	23.1	—	—	—	—	—	—	—	—	—
Tahrir	H	51.2	46.2	40.1	35.4	31.8	31.2	29.5	28.6	—	—	—	—	—	—	—	—
	L	22.5	21.8	22.7	26.5	28.3	28.9	28.9	28.5	—	—	—	—	—	—	—	—
Bahtim	H	52.5	46.7	38.8	34 2	31.7	30.3	27.7	26.1	—	—	—	—	—	—	—	—
	L	24.7	23.6	25.1	29.1	29.9	29.6	27.3	25.6	—	—	—	—	—	—	—	—
Kharga . . .	H	52.0	46.9	40.5	36.6	34.7	33.6	31.6	30.0	—	—	—	—	—	—	—	—
	L	20.5	23.1	26.8	30.2	32.0	32.4	31.3	29.7	—	—	—	—	—	—	—	—

Table C 5. SURFACE WIND

SEPTEMBER — 1968

Station	Wind Speed m/ses at 1½ m			Days with surface wind speed at 10 metres							Max. Gust. (knots) at 10 metres	
	Mean of the day	Nig time mean	day time mean	≥10 knots	≥15 knots	≥20 knots	≥25 knots	≥30 knots	≥35 knots	≥40 knots	value	Date
Elkasr	2.4	1.9	3.0	—	—	—	—	—	—	—	—	—
Tahrir	2.2	1.2	3.1	27	5	0	0	0	0	0	26	11
Bahtim	1.9	1.0	2.7	25	3	1	0	0	0	0	30	11
Kharga . . .	4.3	3.3	5.4	28	28	15	3	0	0	0	37	1

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THE ARAB REPUBLIC OF EGYPT

MONTHLY WEATHER REPORT

VOLUME 11 NUMBER 10

OCTOBER, 1968

U.D.C. 551. 506.1 (62)

THE EGYPTIAN METEOROLOGICAL AUTHORITY
CAIRO

PUBLICATIONS OF THE METEOROLOGICAL AUTHORITY OF THE ARAB REPUBLIC OF EGYPT — CAIRO

In fulfilment of its duties, the Egyptian Meteorological Authority issues serveral reports and publications on weather, climate and agro-meteorology. The principal publications are described on this page.

Orders for publications should be addressed to :

"Chairman of the Board of Directors, Meteorological Authority, Kubri-el-Qubbeh — CAIRO".

THE DAILY WEATHER REPORT

This report is issued daily by the Meteorological Authority since the year 1901. It includes surface and upper air observations carried out by the relevant networks of the Republic at the principal hours of observations.

As from January 1968, this report was revised to include a condensed representative selection of surface and upper air observations besides the 1200 U.T. surface & 500 mb charts.

As from 1st January 1972, the Daily Weather Report will not be issued or distributed because it does not serve no longer any good purpose as it used to be in the past. The Meteorological Authority is ready to supply the recipients of the Report with any information used to be included in it, if they so desire.

THE MONTHLY WEATHER REPORT

First issued in 1909, the Monthly Weather Report served to give a brief summary of the weather conditions that prevailed over Egypt during the month, with a table showing the mean values for few meteorological elements and their deviations from the normal values. From 1954 to 1957 this report was in a rapid state of development and extension resulting into a voluminous report on January 1958 giving surface, upper air, and agro-meteorological data for Egypt.

As from January 1964, the Monthly Weather Report was pressed to give climatological data for a representative selection of synoptic stations.

THE AGRO-METEOROLOGICAL ABRIDGED MONTHLY REPORT

Gives a review of weather experienced in the agro-meteorological stations of Egypt as well as monthly values of certain elements.

THE ANNUAL REPORT

This report gives annual values and statistics for the various meteorological elements, together with a summary of the weather conditions that prevailed during all months of the year.

CLIMATOLOGICAL NORMALS FOR EGYPT

A voluminous edition was issued in March 1968 which brings normals and mean values up till 1960.

METEOROLOGICAL RESEARCH BULLETIN

First issued in January 1969 on a bi-annual basis. It includes research works carried out by members of staff "The Meteorological Institute for Research and Training" and the Operational Divisions of the Meteorological Authority.

TECHNICAL NOTES

As from October 1970, the Meteorological Authority started to issue a new series of publications in the form of Technical Notes (non periodical) on subjects related to studies and applications of meteorology in different fields for the benefit of personnel working in these fields.

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THE EGYPTIAN METEOROLOGICAL AUTHORITY
CAIRO

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Note For explanatory notes on tables please refer to Volume 11, Number 1 (January 1968).

GENERAL SUMMARY OF WEATHER CONDITIONS

OCTOBER 1968

Normal autumn weather, intervened with three transitory Mediterranean disturbances. Local heavy rain, occasionally thundery on the 6th, 14th, 23rd and 30th over the Mediterranean coast.

GENERAL DESCRIPTION OF WEATHER

The prevailing weather during this month was humid and mild in the northern and middle parts, and rather hot, very dry in the southern parts.

Light rain fell over the northern coast during several days and extended to few localities inland round the 14th and 30th. Rain was heavy and associated with thunderstorms over few places in the Mediterranean district on the 6th, 14th, 23rd, and 30th. Light rising sand occurred during several days over scattered places mainly in the Mediterranean and Red Sea districts.

PRESSURE DISTRIBUTION

The most outstanding features of pressure distribution over the surface maps during this month were :

— The Siberian anticyclone & Atlantic anticyclone.

— Travelling deep low pressure systems through North Europe.

— Three secondary depressions through the Mediterranean.

— Complex thermal trough over Arabia and North Sudan.

The barometric pressure over Egypt during this month showed seven falls round the periods: (1st — 2nd), (4th — 6th), (9th — 11th), (13th — 14th), (17th — 20th), (22nd — 24th) and (27th — 29 th).

Three of these pressure falls (the first, sixth and seventh) were caused by the transit of three secondary depressions which developed over Central Mediterranean and passed through East Mediterranean on the 2nd, 24th and 29th respectively.

The other four pressure falls were due to the slight deepening and extension of the complex thermal trough over Arabia and North Sudan towards East Mediteranean.

During the rest periods of the month, the barometric pressure over Egypt was above normal and high pressure established over the Mediterranean and North Africa.

The most important features of pressure distribution over the synoptic upper air charts during this month were :

— Deep upper low pressure systems over North Atlantic and North Russia.

— Secondary upper lows or troughs over the Mediterranean and its vicinities, passing through East Mediterranean and north of Egypt on the 8th, 16th, 25th and 30th.

— Upper high pressure belt over the subtropical latitudes.

SURFACE WIND

The prevailing surface winds during this month were generally light to moderate Nly, but they changed to W/SW in advance and by the passage of Mediterranean troughs through north Egypt Surface winds became fresh to strong during several days over scattered localities in the Mediterranean, Western Desert, Upper Egypt and Red Sea districts.

TEMPERATURE

During this month maximum air temperature oscillated slightly round normal in the northern parts and below normal in the central and southern parts. Maximum air temperature values ranged most days of the month between 24° & 30°C in the northern parts, between 27° & 31°C in the central parts, between 32° & 36°C in the southern parts.

The absolute maximum air temperature was 38.7°C reported at Aswan on the 19th.

Minimum air temperature oscillated round normal in the northern parts and below normal in the central and southern parts.

Minimum air temperature values ranged most days of the month between 13° & 20°C in the northern and central parts, between 16° & 22°C in the southern parts.

The absolute minimum air temperature was 10.0 °C reported at Siwa and Dakhla on the 28th & 21st respectively.

PRECIPITATION

Light rain fell during several days over the Mediterranean district where its monthly amounts were above normal. It extended southwards to local places inland round the 14th and 30th. Rain was heavy over scattered places in the Mediterranean district on the 6th, 14th, 23rd and 30th. and was associated with lightining & thunder.

The highest daily rainfall amount was 55.0 mms reported at El Kasr on the 23rd, which is a record for October.

The highest monthly rainfall amount was 93.9 mms reported at Dabaa.

Chairman (M. F. TAHA)

Board of Directors

Cairo, February 1972

Table A 1.—MONTHLY VALUES OF THE ATMOSPHERIC PRESSURE, AIR TEMPERATURE RELATIVE HUMIDITY, BRIGHT SUNSHINE DURATION & PICHE EVAPORATION

OCTOBER — 1968

STATION	Atmospheric Pressure (mbs) M.S.L.		Air Temperature °C									Relative Humidity %		Bright Sunshine Duration (Hours)			Piche Evaporation mms.
			Maximum		Minimum		$\frac{A+B}{2}$	Dry Bulb		Wet Bulb							
	Mean	D.F. Normal or Average	(A) Mean	D.F. Normal or Average	(B) Mean	D.F. Normal or Average		Mean	D.F. Normal or Average	Mean	D.F. Normal or Average	Mean	D.F. Normal or Average	Total Actual	Total Possible	%	Mean
Sallum	1016.0	—0.2	26.4	—1.0	16.8	—1.1	21.6	21.2	—1.4	16.7	—1.5	54	—10	—	—	—	8.0
Mersa Matruh (A)	1016.0	—0.4	25.7	—1.3	15.9	—0.9	20.8	20.5	—1.2	16.9	—0.9	68	+2	—	—	—	6.5
Alexandria (A)	1015.9	+0.1	27.6	—0.2	16.1	—1.6	21.8	21.8	—0.9	17.8	—1.0	66	—2	325.7	354.2	92	6.0
Port Said (A)	1015.0	—0.1	26.7	—0.6	20.4	—1.4	23.5	—	—	—	—	—	—	307.6	354.2	87	8.6
El Arish	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ghazza	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tanta	1015.5	+1.1	29.0	—1.1	15.6	+0.1	22.3	21.5	—0.6	17.4	—0.6	65	0	291.6	354.5	82	4.7
Cairo (A)	1015.2	0.0	28.4	—1.5	16.8	—1.0	22.6	22.4	—1.1	17.0	—1.2	55	—3	—	—	—	12.4
Fayoum	—	—	29.7	—1.7	15.5	—1.8	—	—	—	—	—	—	—	—	—	—	6.0
Minya (A)	1014.8	+0.6	29.8	—1.6	14.0	—1.6	21.9	21.9	—1.3	16.0	—1.5	51	—4	322.7	356.8	90	10.4
Assyout (A)	1014.2	+0.6	30.1	—1.0	15.9	—2.1	23.0	22.8	—1.6	15.5	—1.8	42	—4	—	—	—	14.2
Luxor (A)	1012.7	+0.9	34.8	—0.3	16.8	—0.8	25.8	25.5	+0.6	16.8	—1.1	38	—1	—	—	—	9.3
Aswan (A)	1012.0	+0.8	34.2	—2.7	18.8	—0.6	26.5	26.0	—2.2	15.2	—0.6	26	+6	—	—	—	21.3
Siwa	1016.1	+0.1	28.2	—3.4	13.7	—1.2	20.9	21.2	—1.9	15.9	—0.1	55	+11	—	—	—	8.1
Bahariya	1015.7	+1.2	29.1	—2.0	14.2	—1.8	21.6	21.7	—2.1	15.2	—1.4	46	—3	—	—	—	7.5
Farafra	—	—	29.4	+0.9	14.2	+1.2	21.8	—	—	—	—	—	—	—	—	—	15.6
Dakhla	1015.4	+2.5	29.8	—2.4	14.0	—3.1	21.9	22.3	—2.4	13.7	—1.4	31	+1	—	—	—	14.4
Kharga	1014.1	+1.2	31.4	—2.7	17.1	—1.4	24.2	24.6	—1.1	15.0	—1.2	34	+1	333.9	358.6	93	17.6
Tor	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hurghada	1012.3	+0.2	29.0	+0.2	19.4	—0.4	24.2	24.6	—0.3	18.2	—1.0	50	—6	—	—	—	16.3
Ouseir	1013.1	+0.9	28.6	—1.5	21.9	—0.9	25.2	25.3	—0.6	19.3	—0.3	55	+2	—	—	—	15.2

Table A 2.—MAXIMUM AND MINIMUM AIR TEMPERATURE

OCTOBER 1968

Station	Maximum Temperature °C									Grass Min. Temp.		Minimum Temperature							
	Highest	Date	Lowest	Date	No. of Days with Max-Temp.					Mean	D. From Normal	Highest	Date	Lowest	Date	No. of Days with Min. Temp.			
					>25	>30	>35	>40	>45							<10	<5	<0	<-5
Sallum	31.4	22	22.5	31	23	1	0	0	0	16.6	—	19.8	6	14.2	31	0	0	0	0
Mersa Matruh (A)	30.8	5	22.2	14	18	1	0	0	0	—	—	17.6	3,7	13.6	16	0	0	0	0
Alexandria (A)	30.4	15	24.8	30	29	1	0	0	0	14.6	—	20.5	11	13.7	29	0	0	0	0
Port Said (A)	30.0	15	23.0	31	29	0	0	0	0	19.7	—	22.5	6	17.6	24	0	0	0	0
El Arish	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ghazza	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tanta	31.6	15	24.2	31	30	5	0	0	0	—	—	18.0	2.3	13.6	17	0	0	0	0
Cairo (A)	31.2	7	25.2	31	31	2	0	0	0	—	—	18.8	8	14.8	20,28	0	0	0	0
Fayoum	32.7	7	26.4	31	31	11	0	0	0	13.4	—	18.8	8	13.2	24	0	0	0	0
Minya	32.4	7	26.8	31	31	10	0	0	0	12.0	—	16.6	9	11.6	15	0	0	0	0
Assyout (A)	32.0	8,15,18*	26.0	31	31	18	0	0	0	13.8	—	17.5	6,7,8	13.3	28	0	0	0	0
Luxor (A)	37.4	9	29.5	25	31	30	16	0	0	10.9	—	20.0	17,18	12.7	27	0	0	0	0
Aswan (A)	38.7	19	29.0	31	31	27	14	0	0	—	—	22.5	16	14.4	28	0	0	0	0
Siwa	32.3	23	20.0	14	29	7	0	0	0	12.2	—	16.7	23	10.0	28	0	0	0	0
Bahariya	31.9	6	25.5	31	31	12	0	0	0	12.8	—	17.2	8	11.7	26,27	0	0	0	0
Farafra	32.4	1.6	25.6	31	31	12	0	0	0	14.1	—	17.6	12	10.4	26	0	0	0	0
Dakhla	34.6	23	26.4	25	31	15	0	0	0	—	—	16.8	19,20	10.0	21	0	0	0	0
Kharga	35.9	23	27.7	31	31	25	1	0	0	14.5	—	21.0	4,9	11.8	15	0	0	0	0
Tor	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hurghada	31.6	16	26.7	31	31	5	0	0	0	—	—	23.2	17	15.3	30	0	0	0	0
Quseir	30.6	16	26.6	26	31	2	0	0	0	20.4	—	24.2	17	18.9	31	0	0	0	0

* More than three days.

Table A 3.—SKY COVER AND RAINFALL

OCTOBER — 1968

STATION	Mean Sky Cover Oct.					Rainfall mms.										
	00 U.T.	06 U.T.	12 U.T.	18 U.T.	Daily Mean	Total Amount	D. From Normal	Max. Fall in one day		Number of Days with Amount of Rain						
								Amouut	Date	<0.1	≥0.1	≥1.0	≥5.0	≥10	≥25	≥50
Sallum	0.9	2.5	4.2	1.8	2.0	23.2	+ 6.1	8.6	15	0	9	5	2	0	0	0
Mersa Matruh (A)	2.2	3.6	4.3	2.4	3.1	37.3	+21.1	17.2	14	2	8	4	2	2	0	0
Alexandria (A)	2.8	3.2	4.2	2.9	3.1	3.3	—5.9	1.6	30	1	4	1	0	0	0	0
Port Said (A)	—	1.4	1.7	—	—	8.8	+1.8	4.9	31	2	3	3	0	0	0	0
El Arish	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ghazza	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tanta	0.1	0.7	3.1	0.2	1.1	6.1	+1.7	3.5	31	0	3	2	0	0	0	0
Cairo (A)	0.2	1.0	2.9	0.9	1.3	0.0	—0.8	0.0	—	0	0	0	0	0	0	0
Fayoum	—	0.4	2.1	0.8	—	0.0	—0.9	0.0	—	0	0	0	0	0	0	0
Minya (A)	0.1	0.2	1.2	0.1	0.4	0.0	—0.6	0.0	—	0	0	0	0	0	0	0
Assyout (A)	0.1	0.2	0.5	0.0	0.2	0.0	— Tr.	0.0	—	0	0	0	0	0	0	0
Luxor (A)	0.5	1.1	1.3	1.2	1.0	0.0	—0.1	0.0	—	0	0	0	0	0	0	0
Aswana (A)	0.4	1.5	1.7	0.8	1.2	0.0	— Tr.	0.0	—	0	0	0	0	0	0	0
Siwa	0.6	0.8	3.2	0.5	1.3	7.0	+6.7	3.7	14	0	1	1	0	0	0	0
Bahariya	0.1	0.4	1.8	0.3	0.6	0.0	—0.3	0.0	—	0	0	0	0	0	0	0
Farafra	—	0.3	1.2	0.0	—	0.0	—1.0	0.0	—	0	0	0	0	0	0	0
Dakhla	0.5	0.6	1.2	0.5	0.6	0.0	— Tr.	0.0	—	0	0	0	0	0	0	0
Kharga	0.2	0.6	0.7	0.2	0.5	0.0	— Tr.	0.0	—	0	0	0	0	0	0	0
Tor	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hurghada	0.6	0.9	1.6	1.3	1.1	0.0	—0.1	0.0	—	0	0	0	0	0	0	0
Quseir	0.5	1.1	1.3	0.7	0.9	0.0	—0.5	0.0	—	0	0	0	0	0	0	0

Table A 4.—DAYS OF OCCURRENCE OF MISCELLANEOUS WEATHER PHENOMENA

OCTOBER — 1968

Station	Precipitation				Frost	Thunderstorm	Mist Vis ≥ 1000 metres	Fog Vis < 1000 Metres	Haze Vis ≥ 1000 Metres	Thick Haze Vis < 1000 Metres	Dust or Sandrising Vis ≥ 1000 Metres	Dust or Sandstorm Vis < 1000 Metres	Gale	Clear Sky	Cloudy Sky
	Rain	Snow	Ice Pellets	Hail											
Sallulm	9	0	0	0	0	4	0	0	0	0	0	1	0	17	0
Mersa Matruh . . . . (A)	8	0	0	0	0	2	0	0	0	0	8	2	0	10	1
Alexandria . . . . . (A)	4	0	0	0	0	0	6	1	1	0	1	0	0	4	0
Port Said . . . . (A)	3	0	0	0	0	0	0	0	1	0	0	0	0	—	—
El Arish	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ghazza	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tanta	3	0	0	0	0	0	3	0	0	0	0	0	0	24	0
Cairo . . . . . (A)	0	0	0	0	0	0	2	0	8	0	1	0	0	22	0
Fayoum	0	0	0	0	0	0	0	0	0	0	0	0	0	—	—
Minya . . . . . (A)	0	0	0	0	0	0	1	0	1	0	0	0	0	25	0
Assyout. . . . . (A)	0	0	0	0	0	0	0	0	0	0	0	0	0	30	0
Luxor . . . . . (A)	0	0	0	0	0	0	0	0	0	0	1	0	0	22	0
Aswan . . . . . (A)	0	0	0	0	0	0	0	0	0	0	3	0	0	23	0
Siwa	1	0	0	0	0	0	0	0	0	0	0	0	0	25	1
Bahariya	0	0	0	0	0	0	0	0	0	0	0	0	0	29	0
Farafra	0	0	0	0	0	0	0	0	0	0	0	0	0	—	—
Dakhla	0	0	0	0	0	0	0	0	0	0	1	0	0	30	0
Kharga	0	0	0	0	0	0	0	0	0	0	1	0	0	30	0
Tor	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hurghada	0	0	0	0	0	0	0	0	0	0	3	0	0	25	1
Quseir	0	0	0	0	0	0	0	0	0	0	0	0	0	—	0

Table A 5.—NUMBER IN HOURS OF OCCURENCES OF CONCURRENT SURFACE WIND SPEED AND DIRECTION RECORDED WITHIN SPECIFIED RANGES

OCTOBER — 1968

Station	calm (hours)	Variable (hours)	Unrecorded (hours)	Wind speed in knots	Number in hours of occurrences of wind blowing from the ranges of directions indicated												All direction
					345 / 014	015 / 044	045 / 074	075 / 104	105 / 134	135 / 164	165 / 194	195 / 224	225 / 254	255 / 284	285 / 314	315 / 344	
llum	4	0	8	1—10	22	62	31	16	8	12	5	5	16	47	131	127	482
				11—27	14	9	0	2	4	7	3	8	35	29	90	49	250
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**36**	**71**	**31**	**18**	**12**	**19**	**8**	**13**	**51**	**76**	**231**	**176**	**732**
rsa Matruh . (A)	4	2	15	1—10	81	18	16	9	16	13	22	31	77	107	36	68	494
				11—27	21	7	9	3	0	1	28	17	28	29	16	70	229
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**102**	**25**	**25**	**12**	**16**	**14**	**50**	**48**	**105**	**136**	**52**	**138**	**723**
exandria. . . (A)	25	2	182	1—10	64	34	28	18	27	20	15	34	24	11	78	128	481
				11—27	5	9	1	0	0	0	0	1	0	10	9	19	54
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**69**	**43**	**29**	**18**	**27**	**20**	**15**	**35**	**24**	**21**	**87**	**147**	**535**
rt Said . . . (A)	1	0	13	1—10	151	75	26	6	8	6	15	35	74	35	57	112	600
				11—27	11	7	9	0	1	0	0	7	37	6	42	10	130
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**162**	**82**	**35**	**6**	**9**	**6**	**15**	**42**	**111**	**41**	**99**	**122**	**730**
nta	125	0	0	1—10	55	33	18	14	6	5	66	87	64	69	89	110	616
				11—27	0	0	0	0	0	0	0	0	0	3	0	0	3
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**55**	**33**	**18**	**14**	**6**	**5**	**66**	**87**	**64**	**72**	**89**	**110**	**619**
iro . . . . . (A)	53	2	6	1—10	52	105	81	75	23	19	14	23	24	37	62	61	576
				11—27	11	45	16	6	5	0	0	0	0	12	8	4	107
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**63**	**150**	**97**	**81**	**28**	**19**	**14**	**23**	**24**	**49**	**70**	**65**	**683**
ayoum	31	1	2	1—10	269	159	19	6	9	5	6	15	36	32	65	81	702
				11—27	0	4	0	0	0	0	0	0	4	0	0	0	8
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**269**	**163**	**19**	**6**	**9**	**5**	**6**	**15**	**40**	**32**	**65**	**81**	**710**
inya . . . . . (A)	59	12	0	1—10	262	26	2	2	2	0	2	3	7	15	26	191	538
				11—27	80	1	0	0	0	0	0	0	0	2	0	52	135
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**342**	**27**	**2**	**2**	**2**	**0**	**2**	**3**	**7**	**17**	**26**	**243**	**673**

Table A 5 (*contd.*) — NUMBER IN HOURS OF OCCURENCES OF CONCURRENT SURFACE WIND SPEED AND DIRECTION RECORDED WITHIN SPECIFIED RANGES

OCTOBER 1968

Station	calm (hours)	Variable (hours)	Unrecorded (hours)	Wind speed in knots	Number in hours of occurrences of wind blowing from the ranges of directions indicated												
					345 / 014	015 / 044	045 / 074	075 / 104	105 / 134	135 / 164	165 / 194	195 / 224	225 / 254	255 / 284	285 / 314	315 / 344	All directions
Asyout . . . . (A)	2	0	37	1–10	27	9	5	1	9	1	1	2	6	159	191	103	514
				11–27	42	0	0	0	0	0	0	0	0	1	22	126	191
				28–47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**69**	**9**	**5**	**1**	**9**	**1**	**1**	**2**	**6**	**160**	**213**	**229**	**705**
Luxor . . . . (A)	0	0	0	1–10	24	23	2	20	21	71	195	47	27	69	150	48	737
				11–27	0	0	0	0	0	0	0	0	0	0	5	2	7
				28–27	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**24**	**23**	**2**	**20**	**21**	**71**	**195**	**47**	**27**	**109**	**155**	**50**	**744**
Aswan . . . . (A)	0	0	0	1–10	462	46	1	0	0	0	3	1	2	2	6	122	645
				11–27	81	3	0	0	0	0	0	0	0	0	0	15	99
				28–47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**543**	**49**	**1**	**0**	**0**	**0**	**3**	**1**	**2**	**2**	**6**	**137**	**744**
Siwa	17	10	7	1–10	29	58	33	29	20	14	15	16	67	147	152	89	669
				11–27	0	1	1	1	1	2	4	2	1	2	13	13	41
				28–47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**29**	**59**	**34**	**30**	**21**	**16**	**19**	**18**	**68**	**149**	**165**	**102**	**710**
Dakhla	13	23	0	1–10	37	14	1	0	5	4	17	28	73	138	159	153	632
				11–27	14	3	0	0	0	0	0	0	0	2	9	48	76
				28–47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**51**	**17**	**1**	**0**	**5**	**4**	**17**	**28**	**73**	**140**	**168**	**201**	**708**
Kharga	17	4	27	1–10	136	23	4	1	1	0	1	0	2	8	26	197	399
				11–27	201	6	0	0	0	0	0	0	0	0	1	89	297
				28–47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**337**	**29**	**4**	**1**	**1**	**0**	**1**	**0**	**2**	**8**	**27**	**286**	**696**
Hurghada	3	0	0	1–10	8	14	4	2	4	3	1	1	0	3	55	43	138
				11–27	168	45	0	0	0	0	0	0	0	0	136	254	603
				28–47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**176**	**59**	**4**	**2**	**4**	**3**	**1**	**1**	**0**	**3**	**191**	**297**	**741**
Qusair	3	1	1	1–10	68	28	3	3	2	1	2	2	5	56	218	84	472
				11–27	141	4	0	0	0	0	0	0	1	0	18	103	267
				28–47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**209**	**32**	**3**	**3**	**2**	**1**	**2**	**2**	**6**	**56**	**236**	**187**	**739**

UPPER AIR CLIMATOLOGICAL DATA

Table B1. MONTHLY MEANS, ABSOLUTE HIGHER & LOWER VALUES OF ALTITUDE, AIR TEMPERATURE & DEW POINT AT STANDARD AND SELECTED PRESSURE SURFACES

OCTOBER 1968

Station	Pressure Surface (Millibar)	Altitude of Pressure Surface (gpm)				Temperature (°C)				Dew Point (°C)	
		N	Mean	Highest	Lowest	N	Mean	Highest	Lowest	N	Mean
Mersa Matruh 0000 U.T.	Surface	29	1012	*1016m.b.	*1009m.b.	29	17.6	21.4	15.2	29	14.1
	1000	29	133	165	105	29	18.9	22.4	16.7	29	14.1
	850	29	1511	1542	1473	29	9.8	14.0	6.4	29	4.0
	700	29	3100	3137	3059	29	1.4	5.5	— 3.3	26	— 9.3
	600	29	4328	4374	4261	29	— 5.3	0.2	— 9.9	23	—17.2
	500	29	5736	5805	5673	29	—14.5	—10.0	—18.9	16	—28.1
	400	29	7385	7474	7291	29	—27.2	—22.4	—32.1	16	—39.1
	300	29	9396	9531	9276	29	—41.7	—36.1	—46.7	11	—53.3
	250	29	10646	10760	10484	29	—48.6	—43.6	—54.4	7	—61.2
	200	28	12061	12219	11921	28	—54.6	—50.3	—60.3	4	—66.6
	150	26	13847	14062	13735	26	—60.0	—55.1	—64.7	1	—70.8
	100	24	16382	16545	16225	24	—63.9	—57.9	—69.1	—	—
	70	21	18552	18790	18410	21	—62.3	—52.6	—65.9	—	—
	60	20	19512	19653	193.3	20	—62.1	—59.0	—6.9	—	—
	50	20	20651	20850	20484	20	—59.1	—47.7	—62.8	—	—
	40	14	22062	22183	21953	14	—57.2	—55.4	—59.3	—	—
	30	11	23898	24022	23665	11	—54.7	—52.1	—56.3	—	—
	20	5	2?482	26818	2?372	5	—51.5	—50.9	—52.0	—	—
	10	—	—	—	—	—	—	—	—	—	—
Helwan 0000 U.T.	Surface	31	*999m.b.	*10?4m.b.	*995m.b.	31	19.2	21.4	16.1	31	13.5
	1000	31	130	157	100	10	18.6	20.2	16.0	10	13.7
	850	31	1515	1542	1491	31	12.5	16.0	8.2	31	3.1
	700	31	3123	3163	3091	31	3.3	9.2	— 1.7	31	—13.3
	600	31	4368	4416	4310	31	— 2.1	1.9	— 8.8	30	—20.6
	500	31	5787	5848	5700	31	—12.1	— 8.2	—17.9	30	—29.1
	400	31	7458	7624	7329	31	—24.4	—20.0	—29.9	30	—39.2
	300	31	9491	9661	9324	31	—38.9	—34.3	—43.0	29	—52.0
	250	30	10718	10826	10540	30	—47.0	—43.0	—52.1	29	—59.0
	200	28	12179	12306	12007	28	—55.3	—51.1	—58.9	26	—65.9
	150	25	13986	14129	13827	26	—61.8	—57.8	—65.5	2	—67.1
	100	20	16451	16585	16325	20	—66.9	—61.3	—71.0	—	—
	70	20	18614	18740	18500	20	—64.5	—57.3	—69.8	—	—
	60	18	19581	19712	19449	18	—62.7	—58.7	—66.8	—	—
	50	18	20714	20865	20581	18	—60.0	—55.3	—65.5	—	—
	40	16	22116	22291	21968	16	—57.3	—52.3	—60.5	—	—
	30	14	23959	24141	23778	14	—51.1	—49.2	—57.9	—	—
	20	7	26520	26?38	26380	7	—50.9	—49.5	—53.0	—	—
	10	—	—	—	—	—	—	—	—	—	—
Aswan 0400 U.T.	Surface	29	*989m.b.	*993m.b.	*986m.b.	29	22.0	25.2	16.5	29	6.0
	1000	29	97	133	72	—	—	—	—	—	—
	850	29	1512	1538	1483	29	20.9	24.0	14.8	29	1.1
	700	29	3161	3202	3130	29	9.5	14.4	6.0	29	— 7.8
	600	29	4418	4475	4370	29	0.4	6.4	— 5.4	29	—16.2
	500	29	5860	5935	5803	29	— 7.9	— 3.8	—12.0	29	—25.3
	400	29	7558	7638	7496	29	—19.8	—16.2	—24.2	29	—34.5
	300	29	9631	9724	9558	29	—35.0	—31.2	—39.8	29	—47.7
	250	29	10878	10977	10781	29	—44.0	—40.4	—48.0	29	—54.4
	200	29	12342	12445	12211	29	—54.9	—52.2	—58.1	28	—64.9
	150	29	14134	14244	13999	29	—65.6	—59.4	—72.8	1	—70.5
	100	27	16528	16669	16349	27	—74.9	—68.8	—80.7	—	—
	70	22	18660	18810	18540	22	—68.5	—64.4	—73.9	—	—
	60	20	19594	19753	19455	20	—64.6	—62.0	—68.8	—	—
	50	20	20719	20896	20571	20	—60.7	—55.3	—66.7	—	—
	40	14	21114	22302	21969	14	—58.8	—52.5	—69.8	—	—
	30	14	23931	24122	23746	14	—56.2	—52.3	—68.4	—	—
	20	8	26531	26719	26230	8	—53.0	—51.0	—59.0	—	—
	10	—	—	—	—	—	—	—	—	—	—

* The atmospheric pressure corrected to the elevation of the radiosonde station.

N = The number of cases the element has been observed during the month.

UPPER AIR CLIMATOLOGICAL DATA

Table B1 (*contd*).—**MONTHLY MEANS, ABSOLUTE HIGHER & LOWER VALUES OF ALTITUDE, AIR TEMPERATURE & DEW POINT AT STANDARD AND SELECTED PRESSURE SURFACES**

OCTOBER — 1968

Station	Pressure Surface (Millibar)	Altitude of Pressure Surface (gpm)				Temperature (°C)				Dew Point (°C)	
		N	Mean	Highest	Lowest	N	Mean	Highest	Lowest	N	Mean
Mersa Matruh 1200 U.T.	Surface	31	1012*m.b.	1017*m.b.	1009*m.b.	31	24.3	29.5	18.8	31	16.0
	1000	31	134	166	106	31	23.1	28.6	17.9	31	14.8
	850	31	1522	1546	1484	31	11.2	14.3	7.7	31	3.6
	700	30	3118	3160	3061	30	2.3	8.1	— 1.9	25	— 7.5
	600	29	4351	4409	4286	29	— 3.6	2.3	— 9.1	18	—14.8
	500	28	5770	5851	5677	28	—13.1	— 8.1	—18.4	15	—25.2
	400	28	7431	7537	7308	28	—25.5	—21.5	—30.7	16	—35.5
	300	27	9417	9594	9282	27	—40.2	—35.6	—48.2	11	—51.0
	250	27	10676	10827	10492	27	—47.3	—41.0	—51.8	10	—57.0
	200	27	12135	12290	11972	27	—53.2	—47.0	—58.4	8	—61.5
	150	26	13967	14130	13829	26	—58.9	—55.3	—62.9	2	—67.6
	100	22	16496	16657	16362	22	—63.0	—58.5	—68.7	—	—
	70	21	18699	18880	18580	21	—60.1	—55.1	—62.5	—	—
	60	16	19667	19805	19533	16	—59.4	—57.2	—60.7	—	—
	50	16	20814	20963	20681	16	—57.3	—53.6	—62.0	—	—
	40	15	22085	22390	22093	15	—54.7	—51.9	—56.8	—	—
	30	10	24054	24233	23941	10	—51.6	—48.8	—53.6	—	—
	20	9	26720	26940	26597	9	—47.1	—44.2	—50.2	—	—
	10	2	31434	31500	31367	2	—32.6	—30.1	—35.2	—	—
Helwan 1200 U.T.	Surface	31	998*m.b.	1002*m.b.	994*m.b	31	27.2	29.7	23.2	31	10.5
	1000	31	122	158	89	7	26.7	28.8	23.8	7	11.0
	850	31	1524	1555	1491	31	13.5	17.2	10.1	31	3.3
	700	31	3136	3181	3091	31	5.8	10.0	— 0.3	31	—14.3
	600	29	4382	4431	4319	29	— 1.2	3.0	— 5.7	29	—21.8
	500	29	5809	5871	5720	29	—11.1	— 5.9	—15.1	29	—30.2
	400	29	7483	7566	7370	29	—23.6	—20.5	—27.6	29	—40.3
	300	29	9523	9638	9366	29	—37.8	—33.3	—42.6	29	—52.6
	250	29	10757	10901	10583	29	—41.5	—40.1	—54.4	29	—59.9
	200	28	12217	12396	12034	28	—53.7	—49.4	—58.3	27	—65.7
	150	25	14046	14236	13855	25	—60.9	—55.3	—64.3	6	—70.1
	100	24	16522	16709	16359	24	—67.7	—60.9	—74.2	—	—
	70	18	18708	18970	18560	18	—64.2	—59.9	—66.9	—	—
	60	17	19655	19826	19494	17	—61.5	—57.0	—65.1	—	—
	50	15	20803	20961	20625	15	—58.9	—55.5	—62.3	—	—
	40	14	22191	22387	22029	14	—55.5	—52.7	—58.7	—	—
	30	13	24056	24251	23857	13	—51.3	—44.1	—57.0	—	—
	20	9	26736	26913	26473	9	—47.0	—42.5	—52.3	—	—
	10	2	31102	31130	31073	2	—44.0	—42.2	—45.7	—	—
Aswan (A) 1200 U.T.	Surface	29	989mb.*	992mb.*	986mb.*	29	32.7	37.6	27.0	29	6.4
	1000	29	90	123	66	—	—	—	—	—	—
	850	29	1520	1551	1494	29	21.0	25.9	15.0	29	— 2.4
	700	28	3168	3216	3132	28	9.7	12.5	5.4	27	— 9.7
	600	26	4430	4485	4374	26	1.0	4.4	— 4.7	24	—17.0
	500	24	5873	5940	5786	24	— 7.3	— 4.1	—15.0	24	—26.4
	400	21	7590	7650	7517	21	—18.3	—15.5	—22.7	21	—34.8
	300	20	9657	9736	9451	20	—33.7	—29.1	—41.3	19	—48.4
	250	19	10925	11008	10673	19	—42.8	—38.7	—48.6	19	—57.2
	200	18	12393	12514	12110	17	—53.4	—46.7	—58.7	17	—65.2
	150	18	14190	14385	14006	18	—64.8	—54.4	—70.7	1	—69.3
	100	13	16601	16915	16226	13	—73.2	—64.5	—78.7	—	—
	70	12	18721	19060	18320	12	—67.0	—64.7	—70.7	—	—
	60	12	19662	20027	19244	12	—64.0	—61.8	—67.0	—	—
	50	11	20787	21172	20349	11	—64.8	—56.1	—62.2	—	—
	40	8	22213	22612	21725	8	—55.1	—52.7	—60.0	—	—
	30	7	24063	24528	23530	7	—51.0	—43.8	—58.0	—	—
	20	6	27013	27614	26551	6	—45.3	—37.2	—50.0	—	—
	10	—	—	—	—	—	—	—	—	—	—

* The atmospheric pressure corrected to the elevation of the radiosonde station.

N — The number of cases the element has been observed during the hour.

Table B 2.—MEAN AND EXTREME VALUES OF THE FREEZING LEVEL AND THE TROPOPAUSE. THE HIGHEST WIND SPEED IN THE UPPER AIR

OCTOBER — 1968

	Station	Freezing Level									Frist Tropopasue									Highest wind speed			
		Mean			Highest			Lowest			Mean			Highest			Lowest						
		Altitude (gpm)	Pressure (mb.)	Dew point (°C)	Altitude (gpm)	Pressure (mb.)	Dew point (°C)	Altitude (gpm)	Pressure (mb.)	Dew point (°C)	Altitude (gpm)	Pressure (mb.)	Temperature (°C)	Altitude (gpm)	Pressure (mb.)	Temperature (°C)	Altitude (gpm)	Pressure (mb.)	Temperature (°C)	Altitude (gpm)	Pressure (mb.)	Direction (000—360)	Speed in Knots
0000 U.T.		(N)	(N)	(N)							(N)	(N)	(N)										
	M. Matruh (A)	3133 (29)	673 (29)	—9.9 (24)	4130	597	—	2570	745	— 3.7	14029 (25)	150 (25)	—62.1 (1)	17050	090	—69.0	11060	239	—50.8	11600	211	260	124
	Helwan . . .	4017 (31)	628 (31)	—18.3 (30)	4780	572	—26.0	2740	731	— 1.8	14368 (20)	144 (20)	—64.5 (3)	16515	100	—68.7	10960	235	—53.7	10950	242	238	168
	Aswan . . (A)	4492 (29)	599 (29)	—16.8 (29)	5280	543	—25.1	3750	648	— 4.8	16149 (24)	107 (24)	—75.8 (24)	17480	086	—78.2	15100	128	—72.1	12120	204	280	96
1200 U.T.		(N)	(N)	(N)							(N)	(N)	(N)										
	M. Matruh (A)	3656 (29)	656 (29)	— 8.8 (16)	4660	577	—	2780	729	—	14036 (25)	154 (25)	—60.5 (25)	17400	089	—62.7	10850	241	—51.9	16720	098	255	165
	Helwan . . .	4130 (29)	622 (29)	—18.8 (29)	5020	555	—20.8	3070	706	— 9.1	14421 (22)	146 (22)	—64.9 (22)	16629	100	—70.4	10730	246	—51.6	13600	163	245	158
	Aswan . . (A)	4611 (23)	587 (23)	—21.9 (23)	5290	540	—21.4	3820	643	—15.1	16349 (13)	106 (13)	—73.9 (13)	17900	085	—67.6	14550	143	—73.3	12270	261	270	130

N = The number of cases the element has been observed during the Month.

Table B 3. NUMBER OF OCCURRENCES OF WIND DIRECTION WITHIN SPECIFIED RANGES AND THE MEAN SCALAR WIND SPEED AT THE STANDARD AND SELECTED PRESSURE SURFACES.

MERSA MATRUH (A) — OCTOBER 1968

Time	Pressure Surface (Millibar)	Wind between specified ranges of direction (000—360°)																								Number of Calm winds	Total Number of Observations (TN)	Mean Scalar Wind Speed (Knots)
		345 / 014		015 / 044		045 / 074		075 / 104		105 / 134		135 / 164		165 / 194		195 / 224		225 / 254		255 / 284		285 / 314		315 / 344				
		N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m			
0000 U.T.	Surface	2	12	0	—	1	12	0	—	1	11	2	10	0	—	7	8	10	9	3	7	1	3	1	16	0	28	9
	1000	1	10	1	13	1	14	0	—	0	—	1	22	3	11	1	4	1	3	6	12	8	11	3	13	0	26	12
	850	5	13	0	—	0	—	0	—	0	—	2	18	1	12	1	12	2	8	3	18	6	14	6	14	0	28	14
	700	1	19	0	—	0	—	0	—	0	—	0	—	0	—	2	26	2	28	12	17	7	15	2	19	0	26	18
	600	1	17	0	—	0	—	0	—	0	—	0	—	0	—	1	30	6	25	16	24	1	13	1	28	0	26	24
	500	1	22	0	—	0	—	0	—	0	—	0	—	0	—	3	26	5	32	14	30	2	18	1	57	0	26	29
	400	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	34	9	33	14	34	0	—	1	37	0	26	34
	300	0	—	0	—	0	—	0	—	0	—	0	—	0	—	3	41	12	52	9	51	2	38	0	—	0	26	50
	250	0	—	0	—	0	—	0	—	0	—	0	—	0	—	4	56	8	60	11	67	2	54	0	—	0	25	62
	200	0	—	0	—	0	—	0	—	0	—	0	—	0	—	4	68	9	66	11	64	0	—	0	—	0	24	66
	150	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	37	11	65	8	73	1	54	0	—	0	21	71
	100	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	61	7	48	9	43	0	—	0	—	0	17	46
	70	0	—	0	—	0	—	0	—	0	—	0	—	1	10	1	22	4	29	3	39	0	—	1	14	2	12	23
	60	0	—	0	—	1	18	0	—	0	—	0	—	0	—	1	22	5	27	2	26	0	—	0	—	1	10	23
	50	0	—	1	19	1	47	0	—	0	—	0	—	0	—	0	—	2	25	1	27	0	—	0	—	2	7	20
	40	0	—	1	12	1	10	0	—	0	—	0	—	0	—	1	11	0	—	0	—	0	—	0	—	0	3	11
	30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1200 U.T.	Surface	4	11	1	13	0	—	0	—	0	—	1	5	0	—	0	—	6	12	1	10	5	16	13	13	0	31	13
	1000	3	12	1	13	0	—	0	—	0	—	0	—	0	—	2	12	6	16	1	20	6	17	12	15	0	31	15
	850	2	10	0	—	0	—	1	9	0	—	0	—	1	10	3	14	4	11	10	13	7	17	3	15	0	31	14
	700	1	28	0	—	0	—	0	—	0	—	1	26	1	31	0	—	6	15	11	18	5	11	4	18	0	29	17
	600	0	—	0	—	0	—	0	—	0	—	1	29	1	39	4	16	5	27	15	24	1	14	2	23	0	29	27
	500	0	—	0	—	0	—	1	34	0	—	1	27	0	—	1	28	13	28	9	37	1	20	2	22	0	28	31
	400	0	—	1	25	0	—	0	—	0	—	0	—	1	18	3	28	15	36	6	53	2	34	0	—	0	28	38
	300	0	—	0	—	0	—	0	—	0	—	0	—	1	32	3	52	11	55	12	59	0	—	0	—	0	27	56
	250	0	—	0	—	0	—	0	—	0	—	0	—	1	39	1	100	18	63	5	71	2	44	0	—	0	27	64
	200	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	74	16	65	8	70	0	—	0	—	0	26	67
	150	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	36	16	57	7	64	1	53	0	—	0	25	60
	100	0	—	0	—	0	—	0	—	0	—	0	—	0	—	5	34	12	57	5	31	0	—	0	—	0	22	46
	70	0	—	0	—	1	8	0	—	0	—	0	—	1	11	1	45	7	34	3	26	0	—	0	—	0	13	29
	60	0	—	1	12	1	4	1	3	1	6	1	8	0	—	0	—	5	39	3	28	0	—	0	—	0	13	24
	50	0	—	0	—	0	—	0	—	1	15	1	24	0	—	1	15	0	—	4	20	0	—	0	—	5	12	11
	40	0	—	0	—	1	4	0	—	0	—	0	—	0	—	1	15	2	17	1	37	0	—	0	—	4	9	10
	30	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	9	3	22	1	22	0	—	0	—	3	8	12
	20	1	27	0	—	0	—	0	—	0	—	0	—	1	14	2	22	1	36	1	7	0	—	0	—	1	7	18
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

N = The number of cases the element has been observed during the month.

TN = The total number of cases the wind has been observed for all directions during the month.

Table B 3. *(contd.)*—**NUMBER OF OCCURRENCES OF WIND DIRECTION WITHIN SPECIFIED RANGES AND THE MEAN SCALAR WIND SPEED AT THE STANDARD AND SELECTED PRESSURE SURFACES.**

HELWAN (A) OCTOBER –1968

Time	Pressure Surface (Millibar)	Wind between ranges of direction (000—360)°																				Number of Calm winds	Total Number of observation (TN)	Mean Scalar wind Speed (Knots)
		345 / 014		015 / 044		045 / 074		075 / 104		105 / 134		135 / 164		165 / 194		195 / 224		225 / 254		255 / 284		285 / 314		315 / 344				
		N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m			
0000 U.T.	Surface	6	6	10	10	10	10	1	6	0	—	6	—	0	—	0	—	0	—	0	—	0	—	1	4	3	31	8
	1000	0	—	4	14	4	10	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	4	0	—	1	10	10
	850	3	10	1	4	0	—	0	—	0	—	0	—	1	3	3	14	3	8	2	15	8	14	10	11	0	31	12
	700	0	—	0	—	0	—	0	—	0	—	0	—	2	27	7	24	13	17	7	22	2	16	0	—	0	31	20
	600	0	—	0	—	0	—	0	—	0	—	0	—	1	48	9	27	14	28	5	29	2	28	0	—	0	31	28
	500	0	—	0	—	0	—	0	—	0	—	0	—	0	—	10	38	13	37	7	41	1	43	0	—	0	31	38
	400	0	—	0	—	0	—	0	—	0	—	0	—	0	—	10	56	14	43	6	64	0	—	0	—	0	30	52
	300	0	—	0	—	0	—	0	—	0	—	0	—	0	—	5	77	15	70	3	64	1	43	0	—	0	24	70
	250	0	—	0	—	0	—	0	—	0	—	0	—	0	—	3	108	13	82	3	70	0	—	0	—	0	19	85
	200	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	7	83	3	59	0	—	0	—	0	10	76
	150	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	57	0	—	0	—	0	1	57
	100	—	—	—	—	—	—	—	—	0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	70	—	—	—	—	—	—	—	—	0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	60	—	—	—	—	—	—	—	—	0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	30	—	—	—	—	—	—	—	—	0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1200 U.T.	Surface	7	9	6	7	1	6	0	—	0	—	0	—	0	—	2	8	1	8	3	7	8	9	2	9	1	31	9
	1000	2	10	2	8	0	—	0	—	0	—	0	—	0	—	1	5	1	8	0	—	1	13	0	—	0	7	9
	850	6	9	6	9	0	—	2	10	0	—	0	—	0	—	1	4	5	13	2	4	5	12	4	7	0	31	9
	700	0	—	0	—	0	—	0	—	0	—	0	—	3	33	9	25	10	20	4	17	3	22	1	14	0	30	23
	600	0	—	0	—	0	—	0	—	0	—	0	—	2	57	11	26	12	28	1	30	3	30	0	—	0	29	29
	500	0	—	0	—	0	—	0	—	0	—	0	—	2	50	6	38	16	38	4	33	1	63	0	—	0	29	39
	400	0	—	0	—	0	—	0	—	0	—	0	—	0	—	4	61	20	50	3	52	1	65	0	—	0	28	52
	300	1	81	0	—	0	—	0	—	0	—	0	—	0	—	5	52	16	67	3	70	0	—	0	—		25	65
	250	0	—	0	—	0	—	0	—	0	—	0	—	0	—	5	56	12	64	4	79	1	37	0	—	0	22	64
	200	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	108	9	75	5	86	0	—	0	—	0	15	81
	150	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	8	76	1	66	0	—	0	—	0	9	75
	100	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	26	3	56	0	—	0	—	0	—	0	4	48
	70	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0	—	—
	60	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

N = The number of cases the element has been observed during the month.

TN = The total number of cases the wind has been observed for all directions during the month.

Table B 3 (*contd.*).—NUMBER OF OCCURRENCES OF WIND DIRECTION WITHIN SPECIFIED RANGES AND THE MEAN SCALAR WIND SPEED AT THE STANDARD AND SELECTED PRESSURE SURFACES.

ASWAN (A) — OCTOER 1968

Time	Pressure Surface (Millibar)	Wind between ranges of direction (000—360)°																						Number of Calm winds	Total Number of observation (TN)	Mean Scalar wind Speed (Knots)
		345 / 014		015 / 044		045 / 074		075 / 104		105 / 134		135 / 164		165 / 194		195 / 224		225 / 254		255 / 284		285 / 314		315 / 344				
		N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m			
0000 U.T.	Surface	19	8	2	4	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	8	6	0	29	8
	1000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	850	3	8	1	5	6	6	4	12	5	7	2	8	0	—	1	7	1	3	4	8	1	4	1	13	0	29	8
	700	0	—	1	5	0	—	0	—	1	3	0	—	4	14	8	22	9	20	2	14	3	10	1	2	0	29	17
	600	1	7	1	4	0	—	1	4	0	—	1	5	5	18	8	20	8	24	3	26	1	21	0	—	0	29	20
	500	0	—	0	—	0	—	1	2	0	—	1	11	3	13	8	26	9	30	6	28	0	—	1	6	0	29	24
	400	0	—	0	—	0	—	0	—	0	—	0	—	0	—	9	30	13	31	7	30	0	—	0	—	0	29	31
	300	0	—	0	—	0	—	0	—	0	—	0	—	1	38	7	40	14	37	7	50	0	—	0	—	0	29	41
	250	0	—	0	—	0	—	0	—	0	—	6	—	0	—	7	43	12	42	10	60	0	—	0	—	0	29	48
	200	0	—	0	—	0	—	0	—	0	—	0	—	0	—	4	52	16	46	9	62	0	—	0	—	0	29	62
	150	0	—	0	—	0	—	0	—	0	—	0	—	0	—	7	33	14	44	7	50	0	—	0	—	0	28	44
	100	0	—	0	—	0	—	2	6	0	—	0	—	7	22	7	36	9	35	2	34	0	—	0	—	0	27	29
	70	0	—	1	12	2	16	3	12	3	13	4	13	2	11	1	19	6	16	0	—	0	—	0	—	0	22	14
	60	1	7	2	6	3	13	4	10	2	18	0	—	2	17	0	—	4	11	1	5	0	—	0	—	0	19	11
	50	0	—	0	—	2	14	5	13	0	—	2	6	1	6	4	14	1	8	0	—	0	—	0	—	0	15	12
	40	0	—	1	8	0	—	5	15	0	—	1	5	4	12	0	—	1	9	1	10	0	—	1	6	0	14	11
	30	0	—	0	—	3	20	5	17	0	—	0	—	0	—	0	—	0	—	1	8	0	—	0	—	0	9	17
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1200 U.T.	Surface	19	8	2	6	0	—	0	—	0	—	0	—	1	2	0	—	0	—	0	—	1	8	6	9	0	29	8
	1000	—	0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	850	0	—	3	17	1	10	1	12	2	4	0	—	3	7	2	6	5	12	5	11	3	7	4	9	0	29	9
	700	0	—	0	—	0	—	0	—	1	16	3	13	4	20	5	20	8	19	5	16	1	3	0	—	0	27	17
	600	0	—	0	—	1	4	0	—	0	—	1	12	3	14	8	18	6	28	4	21	0	—	0	—	0	23	20
	500	0	—	0	—	0	—	1	6	1	6	0	—	3	15	4	12	9	32	4	43	2	24	0	—	0	24	26
	400	0	—	0	—	0	—	0	—	0	—	0	—	1	28	3	25	9	34	6	52	2	28	0	—	0	21	37
	300	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	28	11	35	7	58	0	—	0	—	0	20	42
	250	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	34	10	44	6	58	0	—	0	—	0	18	47
	200	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	37	7	42	9	73	0	—	0	—	0	18	57
	150	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	28	10	51	5	58	0	—	0	—	0	17	50
	100	0	—	0	—	0	—	0	—	1	22	1	10	1	15	3	19	4	28	3	32	0	—	0	—	0	13	24
	70	0	—	0	—	1	5	6	12	0	—	0	—	0	—	1	24	1	14	3	18	0	—	0	—	0	12	14
	60	0	—	0	—	2	19	4	14	1	8	2	16	0	—	0	—	0	—	1	19	0	—	0	—	0	10	15
	50	0	—	1	15	0	—	3	15	1	70	0	—	1	7	1	8	0	—	0	—	0	—	1	9	0	8	19
	40	0	—	0	—	2	13	1	9	3	13	0	—	0	—	1	10	0	—	0	—	0	—	0	—	0	7	12
	30	0	—	0	—	1	18	1	24	2	14	0	—	1	10	1	12	0	—	0	—	0	—	0	—	0	6	15
	20	0	—	0	—	0	—	1	20	1	12	1	12	0	—	0	—	0	—	0	—	0	—	0	—	0	3	15
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

N = The number of cases the element has been observed during the month.

TN = The total number of cases the wind has been observed for all directions during the month.

REVIEW OF AGRO-METEOROLOGICAL STATIONS

EL KASR — OCTOBER 1968

This month was cooler and remarkably rainy than normal. The maximum and minimum air temperatures were below normal most days of the month. Five heat waves prevailed on the days 2nd, 5th and 25th and in the periods (21st-22nd) and (27th - 28th). The 2nd heat wave was the most excessive and yielded the highest maximum air temperature of the month (31.7°C).

The extreme maximum soil temperatures were lower than the corresponding values of last October at all depths except at 50 cm. where the value was the same as the corresponding value of October 1967. The differences ranged between 0.4°C at 100 cm depth and 2.0°C at 5 cm depth. The extreme minimum soil temperatures were lower than the corresponding values of October 1967 at all depths. The differences ranged between 0.3°C at 2 cm depth and 2.7°C at 50 cm depth.

The mean daily Pan evaporation was 1.61 mm lower than the corresponding value of October 1967. Total actual duration of bright sunshine was 12.1 hours lower than the corresponding value of last October.

TAHRIR — OCTOBER 1968

This month was cooler and more humid than normal. The maximum air temperatures were below normal most days of the month. On the 15th the highest maximum air temperature of the month occurred (32.4°C)with about 2°C above normal.

The extreme maximum soil temperature at 2 cm. depth was the same as last October. At 5,10cm. depths the values were 1.3°C and 0.2°C higher than the corresponding values of October 1967 while at depths 20, 50, 100 they were 0.6°C, 1.0°C and 0.4°C lower than the corresponding values of last October.

The extreme minimum soil temperatures were lower than the corresponding values of October 1967 at all depths. The differences ranged between 1.7°C at 2 cm depth and 0.1°C at 100 cm depth.

The mean daily Pan evaporation was 0.27 mm higher than the corresponding value of last October. Total actual duration of bright sunshine was 33.1 hours higher than corresponding value of October 1967.

BAHTIM — OCTOBER 1968

This month was cooler and more humid than normal. The maximum air temperatures were below normal all days of the month except on 7th, 15th, 24th & 29th. On the 15th the highest maximum air temperature of the month (31.4°C) occurred.

The extreme maximum soil temperatures were higher than the corresponding values of last October at all depths except at 2cm and 50cm depths, where the values were 0.9°C and 0.1°C respectively lower than the corresponding values of October 1967. The differences for other depths ranged between 3.9°C at 5 cm depth and 0.2°C at both 10, and 20 cm depth. The extreme minimum soil temperatures at depths 2 and 5 cm were

0.1°C and 0.3°C lower than the corresponding values of October 1967, while at depths between 10& 100 cm the extreme minima were higher than the corresponding values of last October. The differences ranged between 1.1°C at 100 cm depth and 0.1°C at 10cm depth.

Mean daily Pan evaporation was 0.33 mm higher than the corresponding value of last October. Total actual duration of bright sunshine was 26.4 hours higher than October 1967.

KHARGA — OCTOBER 1968

This month was cooler and slightly more humid than normal. The maximum air temperatures were below normal all days of the month, except on 23rd when the highest maximum air temperature of the month occurred (35.9°C).

The extreme maximum soil temperatures were lower than the corresponding values of last October at depths between 2&20cm. The differences ranged between 3.0°C at 2 cm depth and 0.8°C at 20 cm depth. At 50,100 cm depths the extreme maxima were 0.3°C higher than corresponding values of October 1967. The extreme minimum soil temperatures were lower than the corresponding values of last October at all depths except at 100,cm the value at which was 0.2°C higher than the corresponding value of October 1967. The differences ranged between 1.1°Cat 20 cm depth and 0.1°C at 2cm depth.

Mean daily Pan evaporation was 0.25 mms higher than the corresponding value of last October. Total actual duration of bright sunshine was 8.4 hours higher than corresponding value of October 1967.

Note. — During this month recording charts of the mercury in steel hygrograph were not available at Tahrir, Bahtim & Kharga centres. For these centres mean of the day of air temperature, relative humidity and vapour poressure are calculated using the following equations: -

Mean of the day of Air Temperature
= [(0600 + 1200 + 1800) U.T. dry bulb thermometer readings + minimum air temperature)] ÷ 4.

Mean of the day of Vapour Pressure
= (0600 + 1200 + 1800) U.T. observations ÷ 3.

Mean of the day of Relative Humidity
= (0600 + 1800) U.T. observations ÷ 2.

Table C 1.—AIR TEMPERATURE AT 1½ METRES ABOVE GROUND

OCTOBER — 1968

STATION	Air Temperature (°C)					Mean Duration in hours of daily air temperature above the following value									
	Mean Max.	Mean Min.	Mean of the day	Night time mean	Day time mean	—5°C	0°C	5°C	10°C	15°C	20°C	25°C	30°C	35°C	40°C	45°C
El Kasr	25.8	15.9	20.7	18.5	23.0	24.0	24.0	24.0	24.0	23.2	13.0	2.3	0 2	0.0	0.0	0.0
Tahrir	29.4	14.4	20.8	—	24.7	—	—	—	—	—	—	—	—	—	—	—
Bahtim	28.8	13.1	20.6	—	24.9	—	—	—	—	—	—	—	—	—	—	—
Kharga	31.4	17.1	24.6	21.5	27.7	—	—	—	—	—	—	—	—	—	—	—

Table C 2.—EXTREME VALUES OF AIR TEMPERATURE AT 1½ METRES ABOVE GROUND, ABSOLUTE MINIMUM AIR TEMPERATURE AT 5cms ABOVE GROUD OVER DIFFERENT FIELDS.

OCTOBER — 1968

STATION	Max. Temp. at 1½ metres				Min. Temp. at 1½ metres (°C)				Min. Temp. at 5 cms. above			
	Highest		Lowest		Highest		Lowest		Dry soil		Grass	
	value	Date	value	Date	value	Date	value	Date	Value	Date	Value	Date
El Kasr	31.7	5	22.0	24	20.2	7	13.7	16	12.0	23	—	—
Tahrir	32.4	15	26.4	31	16.7	3	11.8	17	10.0	17	—	—
Bahtim	31.4	7,15	25.6	31	15.6	25	11.3	23	9.7	17	—	—
Kharga	35.9	23	27.7	31	21.0	4,9	11.8	15	9.6	15,28	—	—

Table C 3.—(SOLAR + SKY) RADIATION, DURATION OF BRIGHT SUNSHINE, RELATIVE HUMIDITY, & VAPOUR PRESSURE AT 1½ METRES ABOVE GROUND, EVAPORATION & RAINFALL.

OCTOBER — 1968

STATION	(Solar+Sky Radiation gm. cal/cm²	Duration of Bright Sunshine (hours)			Relative Humidity %				Vapour pressure (mms)						Evaporation (mms)		Rainfall (mms)		
		Total Actual monthly	Total Possible monthly	%	Mean of day	1200 U.T.	Lowest	Date	Mean of day	1200 U.T.	Highest	Date	Lowest	Date	Piche	Pan class A	Total Amount Monthly	Max. Fall in one day	Date
El Kasr .	341.9	273.6	353.2	77	68	57	23	22	12.3	12.6	16.8	6	6.8	22,28	6.6	6.37	73.2	55.0	23
Tahrir . .	425.0	313.5	354.6	88	72	40	21	24	12.4	10.9	15.2	3,7	6.2	24	6.0	6.18	0.7	0.6	30
Bahtim . .	427.5	305.9	354.6	86	69	39	24	24	12.1	10.8	15.4	4	7.5	24	7.0	6.55	0.0	0.0	—
Kharga .	427.5	333.9	358.6	93	36	25	13	23	8.1	8.1	12.1	9	4.9	23,24	17.6	12.96	0.0	0.0	—

Table C 4.—EXTREME SOIL TEMPERATURE AT DIFFERENT DEPTHS (cms) IN DIFFERENT FIELDS

OCTOBER — 1968

Station	Highest (H) Lowest (L)	Extreme soil temperature (°C) in dry field at different depths (cms.)								Extreme soil temperature (°C) in grass field at different depths (cms.)							
		2	5	10	20	50	100	200	300	2	5	10	20	50	100	200	300
El Kasr . . .	H	36.0	32.6	29.8	26.0	26.6	25.8	23.4	—	—	—	—	—	—	—	—	—
	L	15.9	15.5	16.4	18.1	19.8	22.3	23.1	—	—	—	—	—	—	—	—	—
Tahrir	H	44.3	41.0	34.4	30.7	28.5	29.1	28.8	28.4	—	—	—	—	—	—	—	—
	L	18.3	18.0	19.5	22.6	24.6	26.0	26.9	27.4	—	—	—	—	—	—	—	—
Bahtim	H	45.6	39.9	33.6	30.2	29.7	29.6	27.7	26.3	—	—	—	—	—	—	—	—
	L	19.7	19.6	22.6	25.6	26.7	27.6	27.3	26.2	—	—	—	—	—	—	—	—
Kharga . . .	H	43.1	38.4	33.9	31.2	32.0	32.3	31.5	30.3	—	—	—	—	—	—	—	—
	L	14.9	18.7	22.3	25.7	28.2	29.7	30.5	30.0	—	—	—	—	—	—	—	—

Table C 5.—SURFACE WIND

OCTOBER — 1968

Station	Wind Speed m/sec at $1^1/_2$ metres			Days with surface wind speed at 10 metres							Max. Gust (knots at 10 meters)	
	Mean of the day	Night time mean	Day time mean	≥10 knots	≥15 knots	≥20 knots	≥25 knots	30 knots	≥35 knots	≥40 knots	value (knots)	Date
El Kasr . . .	2.4	2.1	2.8	—	—	—	—	—	—	—	—	—
Tahrir	1.9	1.1	2.7	22	5	1	0	0	0	0	29	25
Bahtim	2.0	1.3	2.8	26	5	1	0	0	0	0	23	31
Kharga	3.7	2.5	4.8	30	27	8	0	0	0	0	30	17

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THE ARAB REPUBLIC OF EGYPT

MONTHLY WEATHER REPORT

VOLUME 11 NUMBER 11

NOVEMBER, 1968

U.D.C. 551. 506.1 (62)

THE EGYPTIAN METEOROLOGICAL AUTHORITY
CAIRO

PUBLICATIONS OF THE METEOROLOGICAL AUTHORITY OF THE ARAB REPUBLIC OF EGYPT—CAIRO

In fulfilment of its duties, the Egyptian Meteorological Authority issues serveral reports and publications on weather, climate and agro-meteorology. The principal publications are described on this page.

Orders for publications should be addressed to :

"Chairman of the Board of Directors, Meteorological Authority, Kubri-el-Qubbeh — CAIRO".

THE DAILY WEATHER REPORT

This report is issued daily by the Meteorological Authority since the year 1901. It includes surface and upper air observations carried out by the relevant networks of the Republic at the principal hours of observations.

As from January 1968 this report was revised to include a condensed representative selection of surface and upper air observations besides the 1200 U.T. surface & 500 mb charts.

As from 1st January 1972, the Daily Weather Report will not be issued or distributed because it does not serve no longer any good purpose as it used to be in the past. The Meteorological Authority is ready to supply the recipients of the Report with any information used to be included in it, if they so desire.

THE MONTHLY WEATHER REPORT

First issued in 1909, the Monthly Weather Report served to give a brief summary of the weather conditions that prevailed over Egypt during the month, with a table showing the mean values for few meteorological elements and their deviations from the normal values. From 1954 to 1957 this report was in a rapid state of development and extension resulting into a voluminous report on January 1958 giving surface, upper air, and agro-meteorological data for Egypt.

As from January 1964, the Monthly Weather Report was pressed to give climatological data for a representative selection of synoptic stations.

THE AGRO-METEOROLOGICAL ABRIDGED MONTHLY REPORT

Gives a review of weather experienced in the agro-meteorological stations of Egypt as well as monthly values of certain elements.

THE ANNUAL REPORT

This report gives annual values and statistics for the various meteorological elements, together with a summary of the weather conditions that prevailed during all months of the year.

CLIMATOLOGICAL NORMALS FOR EGYPT

A voluminous edition was issued in March 1968 which brings normals and mean values up till 1960.

METEOROLOGICAL RESEARCH BULLETIN

First issued in January 1969 on a bi-annual basis. It includes research works carried out by members of staff of "The Meteorological Institute for Research and Training" and the Operational Divisions of the Meteorological Authority.

TECHNICAL NOTES

As from October 1970, the Meteorological Authority started to issue a new series of publications in the form of Technical Notes (non periodical) on subjects related to studies and applications of meteorology in different fields for the benefit of personnel working in these fields.

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Note : For explanatory notes on the tables please refer to Volume 11, Number 1 (January 1968).

GENERAL SUMMARY OF WEATHER CONDITIONS

NOVEMBER 1968

Rather normal autumn weather characterized with four transitory disturbances. Deficient monthly rainfall in general.

GENERAL DESCRIPTION OF WEATHER

The prevailing weather during this month was humid & genarally mild in the northern and central parts, warm & very dry in the southern parts day-time and rather cool night-time. The month was characterized in particular by a cold wave during the fourth week which was associated with light rainfall mainly over the Mediterranean district. Over Alexandria as an exception, rain was heavy and associated with thunderstorms locally on the 25th.

Early morning fog and mist developed during few days over scattered parts in Lower Egypt and Cairo areas.

PRESSURE DISTRIBUTION

The most outstanding features of pressure distribution over the surface maps during this month were :

— The Siberian anticyclone and its south-west extension over East Mediterranean.

— Deep low pressure systems coming from the Atlantic and passing through North Europe.

— Secondary depressions passing through the Mediterranean.

During this month, four secondary depressions developed over West Mediterranean on the 4th, 8th, 16th & 30th respectively.

The first Mediterranean depression was associated with a secondary depression over west of the Libyan coast. These two secondaries moved eastwards; the coastal secondary traversed north of Egypt on the 6th and filled up over East Mediterranean on the 7th, while the Mediterranean depression reached Turkey on the 8th and filled up over the Black Sea on the 9th. The second Mediterranean depression moved slowly eastwards and traversed East Mediterranean while filling on the 14th. The third Mediterranean depression also moved slowly eastwards reaching East Mediterranean on the 23rd and remained there quasi-stationary till the 28th.

The transit of the above mentioned secondary depressions through East Mediterranean caused corresponding falls in the barometric pressure in Egypt which reached minima round the 6th, 14th & 24th.

After the passage of these secondary depressions through East Mediterranean, the Atlantic anticyclone SE ridge extended over East Mediterranean. Accordingly the barometric pressure in Egypt experienced rises reaching consecutive maxima round the 1st, 9th, 16th & 30th.

The most outstanding features of pressure distribution over the upper air charts were :

— Two deep upper low pressure systems, over North Russia and over North Atlantic.

— Secondary upper lows or troughs over middle latitudes passing through East Mediterranean and north of Egypt on the 8th, 12th, 15th, 23rd and 28th.

— Upper high pressure belt south of latitude 30°N

SURFACE WIND

The prevailing surface winds during this month were generally light to moderate and blew form directions between N & NE. They changed to S/W in advance of the travelling depressions through East Mediterranean and to W/NW in their rears. Winds became fresh to strong during several days over scattered places in the Mediterranean and Red Sea districts. Calms were frequent most of night and early morning intervals in scattered places.

Gales were reported at Sallum on the 26th. and at Mersa Matruh and Balteam on the 26th. and 27th.

TEMPERATURE

Maximum air temperature was moderately above normal in general apart from the cold wave during which it was slightly below normal. Maximum air temperature values ranged most days of the month between 20° & 27°C in the northern and central parts and between 23° & 33°C in the southern parts.

The absolute maximum air temperature was 35.2°C reported at Kom Ombo on the 20th.

Minimum air temperature was generally subnormal and showed slight to moderate departures most days of the month. Minimum air temperature values ranged generally between 11° & 18°C in the northern parts, between 8° & 18°C in the central and southern parts..

The absolute minimum air temperature was 3.2°C reported at Dakhla on the 27th.

PRECIPITATION

Light rain fell over the Mediterranean district round the 14th, 22nd and during the period (25th — 29th). It extended to few localities in land round the 25th. Rain was locally heavy over Alexandria on the 25th and associated with thunderstorms. The monthly rainfall amounts were below normal in general.

The highest daily rainfall amount was 27.3 mms reported at Dekheila on the 25th.

The highest monthly rainfall amount was 32.5 mms reported at Rosetta.

Cairo, February 1972

Chairman (M. F. TAHA)

Board of Directors

SURFACE DATA

Table A 1. — MONTHLY VALUES OF THE ATMOSPHERIC PRESSURE, AIR TEMPERATURE, RELATIVE HUMIDITY, BRIGHT SUNSHINE DURATION & PICHE EVAPORATION.

NOVEMBER — 1968

STATION	Atmospheric Pressure (mbs) M.S.L		Air Temperature °C								Relative Humidity %		Bright Sunshine Duration (Hours)			Piche Evap. (mms) Mean
			Maximum		Minimum			Dry Bulb		Wet Bulb						
	Mean	D.F. Normal or Average	(A) Mean	D.F. Normal or Average	(B) Mean	D.F. Normal or Average	$\frac{A+B}{2}$	Mean	D.F. Normal or Average	Mean	D.F. Normal or Average	Mean	D.F. Normal or Average	Total Actual	Total Possible	%	
Sallum	1016.2	—1.6	23.6	—1.0	13.5	—1.4	18.5	18.5	—1.3	14.4	—0.9	61	+ 1	—	—	—	7.3
Mersa Matruh (A)	1016.6	—1.2	23.3	—0.2	12.5	—0.9	17.9	17.2	—1.0	14.0	—0.7	68	+ 1	—	—	—	6.1
Alexandria (A)	1016.8	—0.4	24.5	0.0	13.2	—1.5	18.9	18.5	—0.8	15.0	—1.1	67	— 2	252.3	318.0	79	4.7
Port Said (A)	1016.1	—0.4	23.9	—0.1	17.2	—1.3	20.6	—	—	—	—	—	—	265.4	318.0	83	5.9
El Arish	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ghazza	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tanta	1016.8	—0.7	25.1	—0.7	12.4	0.0	18.8	18.1	—0.3	14.6	—0.6	66	— 4	261.5	318.8	82	3.8
Cairo (A)	1016.5	—0.6	24.9	—0.3	13.2	—0.6	19.1	18.8	—0.5	14.1	—0.9	57	— 4	—	—	—	10.2
Fayoum	—	—	26.1	—0.4	10.9	—2.3	18.5	—	—	—	—	—	—	—	—	—	4.2
Minya (A)	1016.4	—0.2	25.9	—0.9	9.8	—1.7	17.9	17.4	—1.0	13.0	—1.5	57	— 3	290.6	323.8	90	6.2
Assycut (A)	1015.8	—0.6	26.7	+0.1	11.8	—1.0	19.3	18.7	—0.7	13.1	—0.5	49	+ 1	—	—	—	10.0
Luxor (A)	1015.0	+0.4	29.9	+0.2	11.1	—1.1	20.5	20.0	+0.3	13.5	—1.3	43	— 4	—	—	—	6.2
Aswan (A)	1014.3	—0.1	29.6	—0.9	13.5	—1.1	21.6	21.3	—1.1	12.7	—0.8	31	+ 1	—	—	—	15.6
Siwa	1016.2	—1.8	24.8	—1.5	9.0	—1.1	16.9	16.8	—1.2	12.8	+0.2	61	+11	—	—	—	6.2
Bahariya	1016.8	—0.9	25.6	—0.6	9.7	—1.6	17.7	17.4	—0.8	12.1	—1.4	50	— 1	—	—	—	5.9
Farafra	—	—	25.8	—0.4	8.9	—1.9	17.4	—	—	—	—	—	—	—	—	—	—
Dakhla	1016.9	+1.5	27.0	—0.7	8.2	—3.3	17.6	17.7	—1.4	11.2	—0.8	40	+ 2	—	—	—	9.6
Kharga	1015.8	—0.3	28.0	—0.7	12.1	—0.8	20.1	20.1	—0.5	12.6	—0.8	41	— 1	306.8	328.0	94	12.6
Tor	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hurghada	1014.7	—0.1	25.8	—0.1	14.2	—1.3	20.0	20.2	—0.7	14.9	—0.8	54	0	—	—	—	14.2
Quseir	1015.4	+0.8	26.0	—1.3	17.9	—1.6	21.9	22.1	—1.0	16.5	—0.8	54	+ 1	—	—	—	12.1

Table A 2— MAXIMUM AND MINIMUM AIR TEMPERATURE

NOVEMBER — 1968

Station	Maximum Temperature °C									Grass Min. Temp.		Minimum Temperature °C							
	Highest	Date	Lowest	Date	No. of Days with Max-Temp.					Mean	Dev. From Normal	Highest	Date	Lowest	Date	No. of Days with Min. Temp.			
					>25	>30	>35	>40	>45							<10	<5	<0	<-5
Sallum	28.5	10	17.4	27	10	0	0	0	0	13.5	—	17.2	10,11	8.8	27	3	0	0	0
Mersa Matruh (A)	27.0	10	18.0	27	8	0	0	0	0	—	—	16.0	10	9.0	27	2	0	0	0
Alexandria (A)	28.9	6	18.0	27	15	0	0	0	0	11.5	—	18.4	1	10.2	26	0	0	0	0
Port Said (A)	26.4	8	19.4	27	6	0	0	0	0	16.5	—	21.4	5	11.3	29	0	0	0	0
El Arish	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ghazza	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tanta	28.2	5,6	19.0	27	17	0	0	0	0	—	—	16.2	7	9.3	25	3	0	0	0
Cairo (A)	28.8	19	20.0	29	17	0	0	0	0	—	—	16.9	6	8.4	30	1	0	0	0
Fayoum	29.4	20	21.4	27	23	0	0	0	0	9.9	—	15.1	22	4.8	29	11	1	0	0
Minya (A)	30.4	19	21.0	28	20	1	0	0	0	7.1	—	12.7	10	3.5	29	11	2	0	0
Assyout (A)	32.0	6	20.5	29	23	3	0	0	0	9.7	—	14.0	7	6.7	30	5	0	0	0
Luxor (A)	34.4	20	23.6	26	26	18	0	0	0	11.1	—	15.4	23,25	5.4	29	8	0	0	0
Aswan (A)	34.0	21	22.5	29	25	16	0	0	0	—	—	18.8	22	9.0	28	4	0	0	
Siwa	29.2	5	19.6	27	18	0	0	0	0	6.6	—	11.8	10	4.7	29	21	1	0	0
Bahariya	30.6	20	20.0	25	20	2	0	0	0	8.3	—	13.9	10	4.0	30	16	2	0	0
Farafra	31.4	20	19.2	25	19	1	0	0	0	8.8	—	12.6	7	3.8	30	19	3	0	0
Dakhla	32.4	6,21	21.0	26	21	5	0	0	0	—	—	11.8	22	3.2	27	21	3	0	0
Kharga	33.4	20	22.2	29	24	8	0	0	0	9.8	—	21.0	21	5.0	27	8	0	0	0
Tor	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hurghada	28.6	21	22.0	26	24	0	0	0	0	—	—	17.4	1,24	10.2	27	0	0	0	
Quseir	28.4	20	22.2	29	24	0	0	0	0	16.3	—	20.4	22	12.4	26	0	0	0	

Table A 3.—SKY COVER AND RAINFALL.

NOVEMBER — 1968

Station	Mean Sky Cover Oct.					Rainfall mms.										
	00 U.T.	06 U.T.	12 U.T.	18 U.T.	Daily Mean	Total Amount	D. From Normal	Max. Fall in one day		Number of Days with Amount of Rain						
								Amount	Date	<0.1	≥0.1	≥1.0	≥5.0	≥10	≥25	≥50
Sallum	1.4	2.3	2.5	1.0	1.7	2.6	—25.9	2.5	25	0	2	1	0	0	0	0
Mersa Matruh . (A)	1.3	3.2	3.7	2.0	2.6	4.0	—19.6	2.8	25	0	4	1	0	0	0	0
Alexandria . . . (A)	3.5	3.9	4.4	3.3	3.7	19.4	— 9.4	17.0	25	1	4	2	1	1	0	0
Port Said . . . (A)	—	2.7	2.4	—	—	0.0	— 9.7	0.0	—	0	0	0	0	0	0	0
El Arish	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ghazza	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tanta	0.4	1.6	3.0	1.0	1.4	0.0	— 4.2	0.0	—	0	0	0	0	0	0	0
Cairo . . . . . (A)	0.4	2.3	3.2	1.2	1.7	0.0	— 2.7	0.0	—	0	0	0	0	0	0	0
Fayoum	—	1.0	1.8	1.3	—	Tr.	— 0.5	Tr.	25	1	0	0	0	0	0	0
Minya	0.0	0.5	0.9	0.5	0.5	0.0	— 0.2	0.0	—	0	0	0	0	0	0	0
Asayout. . . . . (A)	0.1	0.7	0.6	0.4	0.4	0.0	— Tr.	0.0	—	0	0	0	0	0	0	0
Luxor . . . . . (A)	0.1	1.2	0.9	0.5	0.6	0.0	— 0.1	0.0	—	0	0	0	0	0	0	0
Aswan . . . . . (A)	0.7	1.1	1.6	1.0	1.1	0.1	+ 0.1	0.1	21	0	1	0	0	0	0	0
Siwa	0.1	0.9	2.6	0.8	1.0	Tr.	— 0.6	Tr.	26	1	0	0	0	0	0	0
Bahariya	0.2	0.6	1.5	0.6	0.7	0.0	— 0.6	0.0	—	0	0	0	0	0	0	0
Farafra	—	0.2	1.5	0.4	—	0.0	— 0.1	0.0	—	0	0	0	0	0	0	0
Dakhla	0.1	0.3	0.8	0 1	0.4	0.0	— Tr.	0.0	—	0	0	0	0	0	0	0
Kharga	0.2	1.1	0.8	0.5	0.6	0.0	— 0.1	0.0	—	0	0	0	0	0	0	0
Tor.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hurghada	0.5	1.1	1.1	1.0	0.9	3.0	+ 2.8	3.0	25	0	1	1	0	0	0	0
Quseir	0.2	1.5	1.1	0.8	1.1	7.0	+ 5.1	7.0	25	1	1	1	1	0	0	0

Table A 4. — DAYS OF OCCURRENCE OF MISCELLANEOUS WEATHER PHENOMENA.

NOVEMBER — 1968

Station	Precipitation				Frost	Thunderstorm	Mist Vis ≥ 1000 metres	Fog Vis < 1000 Metres	Haze Vis ≥ 1000 Metres	Thick Haze Vis < 1000 Metres	Dust or Sandstorm Vis ≥ 1000 Metres	Dust or Sandstorm Vis < 1000 Metres	Gale	Clear Sky	Cloudy Sky
	Rain	Snow	Ice, Pellets	Hail											
Sallum	2	0	0	0	0	0	0	0	0	0	1	2	1	17	0
Mersa Matruh (A)	4	0	0	0	0	0	0	0	0	0	5	2	2	12	0
Alexandria (A)	4	0	0	0	0	2	5	5	0	0	2	0	0	4	2
Port Said (A)	0	0	0	0	0	0	0	1	0	0	1	0	0	—	—
El Arish	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ghazza	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tanta	0	0	0	0	0	0	1	1	0	0	0	0	0	22	0
Cairo (A)	0	0	0	0	0	0	4	1	8	0	5	1	0	19	0
Fayoum	0	0	0	0	0	0	0	0	0	0	0	0	0	—	—
Minya (A)	0	0	0	0	0	0	7	0	3	0	1	0	0	28	0
Assyout (A)	0	0	0	0	0	0	1	0	0	0	0	0	0	28	0
Luxor (A)	0	0	0	0	0	0	0	0	0	0	0	0	0	28	0
Aswan A)	1	0	0	0	0	0	0	0	0	0	2	0	0	18	0
Siwa	0	0	0	0	0	0	0	0	0	0	0	0	0	25	0
Bahariya	0	0	0	0	0	0	0	0	0	0	0	0	0	27	0
Farafra	0	0	0	0	0	0	0	0	0	0	0	1	0	—	—
Dakhla	0	0	0	0	0	0	0	0	0	0	0	0	0	30	0
Kharga	0	0	0	0	0	0	0	0	0	0	0	0	0	28	0
Tor	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hurghada	1	0	0	0	0	2	0	0	0	0	1	0	0	26	0
Quseir	1	0	0	0	0	1	0	0	0	0	0	0	0	26	0

TABLE A 5.—NUMBER IN HOURS OF OCCURRENCES OF CONCURRENT SURFACE WIND SPEED AND DIRECTION RECORDED WITHIN SPECIFIED RANGES

NOVEMBER — 1968

Station	Calm (hours)	Variable (hours)	Unrecorded (hours)	Wind speed in knots	Number in hours of occurences of wind blowing from the ranges of directions indicated												
					345 / 014	015 / 044	045 / 074	075 / 104	105 / 134	135 / 164	165 / 194	195 / 224	225 / 254	255 / 284	285 / 314	315 / 344	All directions
Sallum	27	0	0	1—10	8	11	36	58	31	13	31	20	17	72	79	67	443
				11—27	3	0	0	2	0	1	2	13	19	111	84	15	250
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	11	11	36	60	31	14	33	33	36	183	163	82	693
Mersa Matruh (A)	25	1	0	1—10	20	15	14	45	23	34	71	36	51	43	16	26	394
				11—27	4	3	6	7	8	6	14	37	108	48	13	26	280
				28—47	0	0	0	0	0	0	0	0	8	12	0	0	20
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	24	18	20	52	31	40	85	73	167	103	29	52	694
Alexandria (A)	11	0	2	1—10	56	122	44	16	18	12	54	72	74	32	44	63	607
				11—27	5	11	3	0	0	0	2	3	58	13	0	1	96
				28—47	0	0	0	0	0	0	0	1	3	0	0	0	4
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	61	133	47	16	18	12	56	76	135	45	44	64	707
Port Saird	6	0	10	1—10	67	77	20	6	2	5	38	61	88	42	40	60	506
				11—27	30	26	4	0	0	0	30	55	29	6	6	11	198
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	97	103	24	6	2	5	68	117	117	48	46	71	704
Tanta	121	0	0	1—10	76	26	8	11	7	15	121	73	38	43	56	102	576
				11—27	0	2	0	0	0	0	7	14	0	0	0	0	23
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	76	28	8	11	7	15	128	87	38	43	56	102	599
Cairo (A)	78	1	6	1—10	41	77	48	55	34	25	37	24	40	27	47	43	498
				11—27	1	20	20	0	4	2	22	13	46	8	1	0	137
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	42	97	68	55	38	27	59	37	86	35	48	43	635
Fayoum	50	1	16	1—10	162	156	19	12	4	3	34	71	74	31	23	47	636
				11—27	0	6	0	0	0	0	0	8	3	0	0	0	17
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	162	162	19	12	4	3	34	79	77	31	23	47	653
Minya	97	1	0	1—10	283	15	0	0	0	14	45	11	25	22	19	151	585
				11—27	18	0	0	0	0	0	1	1	3	2	12	0	37
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	301	15	0	0	0	14	46	12	28	24	31	151	622
Asyout	5	0	58	1—10	18	8	5	6	10	7	5	9	34	263	136	82	583
				11—27	7	0	0	0	0	0	0	1	9	9	21	27	74
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	25	8	5	6	10	7	5	10	43	272	157	109	657

Table A 5 *(contd.)*—**NUMBER IN HOURS OF OCCURRENCES OF CONCURRENT SURFACE WIND SPEED AND DIRECTION RECORDED WITHIN SPECIFIED RANGES**

NOVEMBER — 1968

Station	calm (hours)	Variable (hours)	Unrecorded (hours)	Wind speed in knots	Number in hours of occurrences of wind blowing from the ranges of directions indicated												All directions
					345 / 014	015 / 044	045 / 074	075 / 104	105 / 134	135 / 164	165 / 194	195 / 224	225 / 254	255 / 284	285 / 314	315 / 344	
				1-10	83	55	30	51	31	47	139	24	38	65	70	78	711
				11-27	0	0	0	0	0	0	0	0	0	1	1	0	2
Luxor . . . . . (A)	3	4	0	28-47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**83**	**55**	**30**	**51**	**31**	**47**	**139**	**24**	**38**	**66**	**71**	**78**	**713**
				1-10	393	55	12	9	4	1	0	0	0	1	13	78	566
				11-27	103	9	2	0	0	0	0	0	0	0	11	28	153
Aswan . . . . . (A)	0	1	0	28-47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**496**	**64**	**14**	**9**	**4**	**1**	**0**	**0**	**0**	**1**	**24**	**106**	**719**
				1-10	6	9	22	56	82	41	34	28	83	161	69	21	612
				11-27	0	0	0	1	1	4	4	1	5	31	0	0	47
Siwa	39	6	0	28-47	0	0	0	0	0	0	0	0	0	3	13	0	16
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**6**	**9**	**22**	**57**	**83**	**45**	**38**	**29**	**88**	**195**	**82**	**21**	**675**
				1-10	27	30	12	8	5	3	45	62	79	122	128	120	641
				11-27	1	10	2	0	0	0	0	0	0	4	2	0	19
Dakhla	42	18	0	28-47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**28**	**40**	**14**	**8**	**5**	**3**	**45**	**62**	**79**	**126**	**130**	**120**	**660**
				1-10	197	74	11	2	2	1	6	4	1	15	28	166	507
				11-27	105	12	0	0	0	0	0	0	0	3	1	23	144
Kharga	23	4	42	28-47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**302**	**86**	**11**	**2**	**2**	**1**	**6**	**4**	**1**	**18**	**29**	**189**	**651**
				1-10	25	33	13	5	8	2	5	6	5	13	129	47	291
				11-27	73	33	0	0	0	0	0	0	0	3	199	110	418
Hurghada . . .	9	0	2	28-47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**98**	**66**	**13**	**5**	**8**	**2**	**5**	**6**	**5**	**16**	**328**	**157**	**709**
				1-10	52	52	7	9	3	1	6	12	18	172	147	35	514
				11-27	80	2	0	0	0	0	0	0	0	8	33	76	199
Quseir	5	0	2	28-47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**132**	**54**	**7**	**9**	**3**	**1**	**6**	**12**	**18**	**180**	**180**	**111**	**713**

UPPER AIR CLIMATOLOGICAL DATA

Table B1 —MONTHLY MEANS AND MONTHLY ABSOLUTE HIGHER & LOWER VALUES OF ALTITUDE, AIR TEMPERATURE & DEW POINT AT STANDARD AND SELECTED PRESSURE SURFACES

NOVEMBER—1968

Station	Pressure Surface (Millibar)	Altitude of Pressure Surface (gpm)				Temperature (°C)				Dew Point (°C)	
		N	Mean	Highest	Lowest	N	Mean	Highest	Lowest	N	Mean
Mersa Matruh (A) 0000 U.T.	Surface	29	*1013m.b.	*1019m.b.	*1007m.b.	29	13.7	17.0	11.0	29	10.5
	1000	29	138	186	87	29	16.2	19.0	11.1	29	12.4
	850	29	1507	1564	1431	29	9.2	15.7	3.3	29	0.4
	700	29	3092	3188	2974	29	— 0.9	7.3	— 6.7	29	—12.5
	600	29	4315	4405	4166	29	— 6.2	— 1.4	—13.4	29	—20.4
	500	29	5715	5870	5540	29	—16.3	—11.0	—22.9	29	—29.0
	400	29	7356	7540	7158	29	—28.8	—23.8	—35.3	28	—39.8
	300	25	9340	9506	9113	25	—44.2	—39.0	—51.5	24	—53.8
	250	24	10542	10787	10279	24	—52 7	—49.5	—56.7	21	—61.1
	200	21	11987	12213	11761	21	—58.1	—51.5	—60.4	16	—65.1
	150	19	13791	13994	13565	19	—62.6	—56.9	—68.7	1	—68.0
	100	15	16257	16390	16072	15	—68.2	—62.8	—79.5	—	—
	70	10	18442	18570	18220	10	—65.4	—62.2	—70.4	—	—
	60	8	19356	19512	19212	8	—64.6	—62.7	—67.3	—	—
	50	7	20472	20640	20319	7	—63.3	—61.3	—65.1	—	—
	40	7	21854	22032	21700	7	—60.4	—59.0	—63.1	—	—
	30	3	23668	23851	23526	3	—57.3	—54.5	—59.5	—	—
	20	1	26471	—	—	1	—53.0	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—
Helwan 0000 U.T.	Surface	29	*1000m.b.	*1004m.b.	*996m.b.	29	15.9	19.0	9.4	29	9.6
	1000	29	136	174	105	14	16.3	19.6	9.7	14	9.3
	850	29	1514	1563	1463	29	10.7	18.0	3.5	29	— 2.8
	700	29	3111	3198	3016	29	3.6	9.4	— 5.1	27	—15.5
	600	29	4345	4454	4212	29	— 3.9	0.4	—11.6	27	—22.2
	500	29	5757	5888	5580	29	—14.2	—10.1	—22.3	27	—30.5
	400	29	7409	7566	7180	29	—27.2	—23.1	—34.3	28	—41.6
	300	29	9412	9598	9148	29	—42.6	—39.2	—47.8	28	—53.8
	250	28	10620	10822	10366	28	—51.1	—45.2	—56.0	27	—60.7
	200	28	11978	12264	11815	28	—57.1	—51.6	—61.7	25	—66.0
	150	27	13844	14642	13624	27	—62.7	—57.5	—67.3	3	—67.0
	100	22	16309	16475	16120	22	—67.0	—61.7	—71.4	—	—
	70	21	18469	18660	18230	21	—65.2	—62.4	—70.9	—	—
	60	20	19415	19583	19198	20	—64.3	—61.0	—70.5	—	—
	50	19	20532	20711	20323	19	—62.2	—58.7	—65.7	—	—
	40	17	21927	22112	21708	17	—59.5	—57.5	—61.8	—	—
	30	16	23749	23939	23515	16	—56.7	—55.1	—60.3	—	—
	20	9	26360	26529	26197	9	—52.9	—47.1	—57.9	—	—
	10	1	31082	—	—	1	—37.7	—	—	—	—
Aswan (A) 0000 U.T.	Surface	30	*991m.b.	*995m.b.	*988m.b.	30	17.6	25.0	10.8	30	3.8
	1000	30	116	151	89	—	—	—	—	—	—
	850	30	1510	1536	1492	30	16.1	20.7	9.4	30	— 1.2
	700	30	3134	3169	3090	30	7.3	9.9	3.0	30	—14.8
	600	30	4388	4473	4328	30	— 0.1	2.4	— 3.5	30	—22.1
	500	30	5826	5902	5756	30	—10.0	— 6.9	—13.4	30	—29.9
	400	30	7507	7574	7432	30	—22.6	—19.8	—26.9	30	—38.3
	300	30	9557	9650	9482	30	—37.7	—34.0	—42.0	30	—51.1
	250	29	10792	10904	10700	29	—46.1	—42.3	—49.8	29	—57.8
	200	29	12246	12369	12154	29	—55.1	—51.8	—58.0	29	—66.0
	150	27	14048	14177	13952	27	—64.1	—58.0	—68.7	1	—67.1
	100	23	16491	16625	16368	23	—70.5	—66.2	—75.6	—	—
	70	17	18588	18770	18200	17	—69.4	—64.7	—77.1	—	—
	60	13	19553	19693	19366	13	—65.7	—61.8	—68.5	—	—
	50	13	20662	20816	20426	13	—63.9	—60.5	—72.2	—	—
	40	11	22036	22256	21753	11	—59.4	—56.4	—65.0	—	—
	30	10	23828	24036	23558	10	—56.7	—55.2	—59.3	—	—
	20	7	26428	26470	26374	7	—53.0	—50.0	—55.0	—	—
	10	—	—	—	—	—	—	—	—	—	—

N = The number of cases the element has been observed during the month.

* The atmospheric pressure corrected to the elevation of the radiosonde station.

UPPER AIR CLIMATOLOGICAL DATA

Table B1 (*contd*).—MONTHLY MEANS AND MONTHLY ABSOLUTE HIGHER & LOWER VALUES OF ALTITUDE, AIR TEMPERATURE & DEW POINT AT STANDARD AND SELECTED PRESSURE SURFACES

NOVEMBER — 1968

Station	Pressure Surface Millibar	Altitude of Pressure Surface (gpm)				Temperature (°C)				Dew Point (°C)	
		N	Mean	Highest	Lowest	N	Mean	Highest	Lowest	N	Mean
Mersa Matruh 1200 UT.	Surface	27	*1012m.b.	*1019m.b.	*1008m.b.	27	23.0	28.0	17.4	27	12.9
	1000	27	136	192	97	27	21.8	26.8	15.5	27	11.6
	850	27	1517	1567	1460	27	11.1	16.2	4.0	27	0.0
	700	27	3114	3176	3013	27	3.1	8.0	— 6.4	26	—14.3
	600	27	4346	4427	4251	27	— 1.4	0.8	—14.6	27	—21.3
	500	27	5757	5859	5661	27	— 13.9	— 8.8	— 24.5	27	—29.0
	400	27	7412	7540	7146	27	— 26.7	—21.2	— 37.2	27	—40.1
	300	25	9436	9588	9072	25	—42.3	—33.4	— 49.6	24	—53.8
	250	25	10647	10812	10260	25	—50.4	— 36.6	—56.0	22	—60.8
	200	24	12085	12260	11703	24	— 56.4	—52.0	— 61.7	22	—66.0
	150	21	13895	14015	13542	21	—61.2	—56.6	—68.2	2	—67.0
	100	17	16404	16544	16218	17	— 65.8	— 60.1	—72.3	—	—
	70	14	18552	18750	18390	14	—64.8	—60.1	—70.6	—	—
	60	13	19513	19766	19378	13	—63.0	—56.8	—67.8	—	—
	50	13	20643	20816	20512	13	—61.0	—57.9	—64.3	—	—
	40	12	22049	22262	21893	11	— 58.6	—55.7	— 61.5	—	—
	30	10	23880	24098	23731	9	—54.1	—50.9	—59.2	—	—
	20	4	26503	26639	26365	4	—49.6	—45.4	—53.0	—	—
	10	—	—	—	—	—	—	—	—	—	—
Helwan 1200 U.T.	Surface	29	*999m.b.	*1003m.b.	*996m.b.	29	24.1	27.5	17.6	29	8.9
	1000	29	132	165	101	12	24.1	27.3	20.1	12	8.6
	850	29	1520	1561	1478	29	11.4	17.7	3.4	29	— 1.9
	700	28	3124	3194	3028	28	4.3	10.6	— 3.0	28	—16.0
	600	27	4361	4455	4233	27	— 3.3	1.7	— 9.7	27	—23.1
	500	27	5776	5897	5603	27	—13.3	— 8.7	—20.0	27	—31.6
	400	27	7432	7583	7222	27	—26.3	—21.8	— 35.1	27	—42.2
	300	26	9475	9625	9162	26	—42.3	—38.4	— 51.8	26	—55.2
	250	25	10660	10855	10359	25	—51.0	— 46.3	— 62.6	25	—62.5
	200	25	12092	12299	11809	25	—57.3	—51.0	— 61.3	22	—67.6
	150	23	13788	14079	13653	23	— 61.6	—56.3	—69.2	5	—69.3
	100	22	16361	16564	16140	22	—66.7	—62.3	— 70.5	—	—
	70	20	18534	18770	18300	20	— 63.6	—57.1	—67.2	—	—
	60	20	19237	19711	19257	20	— 62.2	—52.5	—64.1	—	—
	50	19	20614	20870	20385	19	—59.9	—47.0	—67.2	—	—
	40	13	22009	22266	21777	13	—58.3	—54.3	—67.8	—	—
	30	12	23836	24116	23587	12	—54.7	—51.0	—69.0	—	—
	20	10	26468	26797	26088	10	—49.2	—43.5	—71.0	—	—
	10	2	31390	31450	31329	2	—39.0	— 35.8	— 42.2	—	—
Aswan 1200 U.T.	Surface	29	*990m.b.	*994m.b.	*987m.b.	29	28.2	34.0	20.8	29	6.3
	1000	29	107	141	77	—	—	—	—	—	—
	850	29	1517	1546	1491	29	16.8	21.4	8.7	28	— 5.0
	700	28	3143	3184	3083	28	7.6	10.5	2.1	28	—14.5
	600	27	4393	4451	4313	27	— 0.3	3.0	— 5.8	27	—22.5
	500	27	5826	5898	5711	27	— 9.9	— 6.7	—16.5	27	—30.2
	400	27	7506	7601	7383	27	—22.4	—19.7	—27.2	27	—39.0
	300	27	9576	9658	9375	27	—38.3	— 34.8	—40.6	26	—51.8
	250	26	10800	10893	10612	26	—45.7	— 41.3	—52.1	26	—59.1
	200	26	12365	12366	12072	26	—54.7	— 50.4	—58.7	24	—66.4
	150	25	14066	14173	13931	25	—63.3	—57.5	—66.7	1	—70.0
	100	22	16515	16673	16369	22	— 69.3	—65.5	—74.6	—	—
	70	18	18621	18800	18410	18	— 68.3	— 63.5	—82.8	—	—
	60	14	19783	19728	19344	14	—61.6	—59.4	—72.0	—	—
	50	14	20733	20860	20581	14	—60.3	—54.9	—69.6	—	—
	40	12	22119	22275	21870	12	—56.6	—52.9	—61.1	—	—
	30	10	24012	24135	23802	10	—51.2	—48.6	—55.0	—	—
	20	9	26643	26811	26330	9	—46.1	—40.7	—50.3	—	—
	10	—	—	—	—	—	—	—	—	—	—

N = The number of cases the element has been observed during the month.

* = The atmospheric pressure corrected to the elevation of the radiosonde station.

Table B 2.—MEAN AND EXTREME VALUES OF THE FREEZING LEVEL AND THE TROPOPAUSE. THE HIGHEST WIND SPEED IN THE UPPER AIR

NOVEMBER — 1968

	Station	Freezing level									First Tropopause									Highest wind speed			
		Mean			Highest			Lowest			Mean			Highest			Lowest						
		Altitude (gpm)	Pressure (mb.)	Dew point (°C)	Altitude (gpm)	Pressure (mb.)	Dew point (°C)	Altitude (gpm)	Pressure (mb.)	Dew point (°C)	Altitude (gpm)	Pressure (mb.)	Temperature (°C)	Altitude (gpm)	Pressure (mb.)	Temperature (°C)	Altitude (gpm)	Pressure (mb.)	Temperature (°C)	Altitude (gpm)	Pressure (mb.)	Direction (000 - 360)°	Speed in Knots
0000 U.T.		(N)	N)	(N)							(N)	(N)	(N)										
	Mersa Matruh (A)	3187 (29)	696 (29)	—10.8 (27)	4100	628	—15.0	1860	807	— 8.2	11899 (16)	201 (16)	—59.5 (16)	12870	177	—64.0	10130	257	—52.2	9855	268	260	150
	Helwan	3608 (29)	660 (29)	—16.8 (27)	4500	596	—28.0	2070	789	— 1.4	14449 (24)	161 (24)	—63.7 (24)	16324	100	—70.5	10350	256	—55.9	13400	163	272	128
	Aswan . . . (A)	4223 (30)	605 (30)	—21.5 (30)	4790	574	—2 .1	3720	649	—24.3	15759 (20)	114 (20)	—70.5 (20)	17300	87	—73.7	14120	146	—69.8	13100	173	250	148
1200 U.T.		(N)	(N)	(N)							(N)	(N)	(N)										
	Mersa Matruh (A)	3593 (27)	660 (27)	—15.5 (27)	4520	594	—22.7	2060	788	—10.2	12486 (22)	193 (22)	—60.0 (22)	15700	113	—69.3	8700	312	—50.0	14400	142	290	146
	Helwan	3702 (28)	653 (28)	17.8 (28)	4690	583	—22.7	1980	802	— 5.2	13922 (23)	157 (23)	—63.8 (23)	16880	92	—70.6	10530	247	—55.3	12635	184	265	129
	Aswan . . . (A)	4365 (27)	605 (27)	—21.6 (27)	4890	568	—21.4	3340	680	—11.3	15836 (19)	112 (19)	—69.0 (19)	17330	88	—69.3	13740	158	—66.9	11680	216	247	144

N = The Number of cases the element has been observed during the month.

TABLE B 3.—NUMBER OF OCCURRENCES OF WIND DIRECTION WITHIN SPECIFIED RANGES AND THE MEAN SCALAR WIND SPEED AT THE STANDARD AND SELECTED PRESSURE SURFACES.

MERSA MATRUH (A)— NOVEMBER 1968

Time	Pressure Surface Millibar	Wind between specified ranges of direction (000—360)°																								Number of calm winds	Total number of observations (TN)	Mean scalar wind speed (knots)
		345 / 014		015 / 044		045 / 074		075 / 104		105 / 134		135 / 164		165 / 194		195 / 224		225 / 254		255 / 284		285 / 314		315 / 344				
		N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m			
0000 U.T.	Surface	0	—	0	—	0	—	0	—	2	6	2	8	3	4	6	10	11	10	1	10	1	7	0	—	3	29	8
	1000	0	—	2	8	0	—	1	9	3	13	1	8	0	—	2	10	3	13	9	18	2	14	2	9	2	27	13
	850	0	—	0	—	2	9	0	—	0	—	0	—	1	2	1	22	2	12	7	18	7	20	6	13	1	27	15
	700	1	17	2	8	0	—	0	—	0	—	0	—	0	—	1	24	2	16	14	23	3	21	2	12	2	27	18
	600	1	8	1	15	1	7	0	—	0	—	0	—	0	—	2	18	4	24	11	31	6	27	1	16	0	27	26
	500	1	27	0	—	1	6	0	—	0	—	0	—	0	—	1	22	3	49	15	40	3	26	2	15	0	26	35
	400	1	36	1	8	0	—	0	—	0	—	0	—	0	—	1	43	3	54	15	47	2	28	1	26	0	24	43
	300	1	48	0	—	0	—	0	—	0	—	0	—	1	39	0	—	4	54	14	57	2	64	2	24	0	24	53
	250	1	51	0	—	0	—	0	—	0	—	0	—	0	—	0	—	3	74	13	64	3	36	1	44	0	21	60
	200	1	38	0	—	0	—	0	—	0	—	0	—	0	—	0	—	3	83	11	62	3	41	1	53	0	19	60
	150	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	79	8	57	3	45	1	31	0	13	54
	100	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	48	2	63	0	—	1	26	0	4	50
	70	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	24	0	—	0	—	0	1	24
	60	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1200 U.T.	Surface	2	5	3	9	2	10	3	8	0	—	0	—	1	6	1	14	2	22	5	17	2	14	5	9	1	27	11
	1000	2	8	2	8	2	10	4	7	0	—	0	—	1	10	2	8	0	—	5	20	3	13	4	12	0	25	12
	850	0	—	2	14	0	—	3	6	1	7	1	11	2	8	0	—	6	12	5	20	2	18	2	8	1	25	12
	700	2	9	1	8	0	—	0	—	1	7	0	—	1	11	1	10	5	19	8	24	4	24	2	18	0	25	19
	600	0	—	1	9	0	—	0	—	0	—	0	—	1	8	1	32	6	20	8	36	2	30	5	26	1	25	24
	500	1	17	1	15	0	—	0	—	0	—	0	—	0	—	1	15	9	37	6	36	6	33	0	—	1	25	32
	400	1	20	0	—	0	—	0	—	0	—	0	—	0	—	0	—	7	44	7	49	7	41	2	30	0	24	43
	300	1	22	0	—	0	—	0	—	0	—	0	—	0	—	0	—	8	47	8	67	5	51	2	36	0	24	53
	250	1	38	0	—	0	—	0	—	0	—	0	—	0	—	0	—	5	52	11	67	3	56	3	43	0	23	58
	200	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	3	53	11	66	4	72	3	51	0	21	63
	150	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	61	11	65	5	63	0	—	0	17	65
	100	1	22	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	48	8	53	2	26	0	—	0	13	45
	70	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	5	44	1	30	0	—	0	6	41
	60	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	28	1	38	0	—	1	38	0	4	33
	50	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	28	1	12	1	9	0	—	0	4	19
	40	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	10	1	10	0	—	0	2	10
	30	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	34	0	—	0	—	0	1	34
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

N = The number of cases the element has been observed during the month.

TN = The total number of cases the wind has been obeserved for all directions during the month.

Table B 3. *(contd.)*—**NUMBER OF OCCURRENCES OF WIND DIRECTION WITHIN SPECIFIED RANGES AND THE MEAN SCALAR WIND SPEED AT THE STANDARD AND SELECTED PRESSURE SURFACES**

HELWAN — NOVEMBER 1968

Time	Pressure Surface (Millibar)	Wind between specified ranges of direction (000—360)°																						Number of Calm winds	Total Number of Observations (TN)	Mean Scalar wind Speed (Knots)
		345 / 014		015 / 044		045 / 074		075 / 104		105 / 134		135 / 164		165 / 194		195 / 224		225 / 254		255 / 284		285 / 314		315 / 344				
		N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m			
0000 U.T.	Surface	1	10	8	9	10	8	1	7	1	4	1	5	2	6	0	—	0	—	0	—	1	3	1	4	3	29	7
	1000	0	—	5	15	6	10	0	—	0	—	0	—	1	5	0	—	0	—	0	—	1	13	0	—	1	14	11
	850	2	15	1	7	3	9	0	—	0	—	0	—	1	4	4	11	7	15	4	16	5	13	2	14	0	29	13
	700	1	10	2	12	0	—	0	—	1	6	0	—	1	33	4	17	4	29	10	23	3	16	3	21	0	29	21
	600	0	—	1	12	0	—	0	—	0	—	1	5	1	6	3	31	6	21	13	27	3	26	1	14	0	29	24
	500	0	—	0	—	0	—	0	—	0	—	0	—	0	—	3	31	4	42	13	28	4	33	5	18	0	29	29
	400	1	11	0	—	0	—	0	—	0	—	0	—	0	—	1	52	8	36	12	41	3	35	2	26	0	27	37
	300	2	34	0	—	0	—	0	—	0	—	0	—	0	—	1	78	4	55	14	55	5	43	1	19	0	27	51
	250	1	22	0	—	0	—	0	—	0	—	0	—	0	—	2	68	5	59	13	65	2	60	1	57	0	24	62
	200	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	86	4	80	11	70	2	60	1	35	0	19	69
	150	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	103	0	—	7	73	2	64	1	28	0	11	70
	100	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	20	1	40	0	—	0	2	30
	70	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	35	0	—	0	—	0	2	35
	60	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	21	1	42	0	—	0	2	31
	50	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	27	1	35	0	—	0	2	31
	40	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	43	0	—	0	—	0	1	43
	30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1200 U.T.	Surface	3	5	7	11	1	4	0	—	0	—	0	—	0	—	4	9	2	8	2	4	3	5	5	7	2	29	7
	1000	0	—	5	15	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	4	3	6	3	5	0	12	9
	850	2	4	4	9	2	16	2	7	1	6	1	6	1	7	2	6	6	16	3	15	4	9	1	8	0	29	11
	700	0	—	3	13	0	—	0	—	0	—	0	—	1	9	5	24	7	20	6	20	1	29	4	12	0	27	19
	600	1	17	1	15	1	8	0	—	0	—	0	—	0	—	2	22	7	25	11	22	4	16	0	—	0	27	21
	500	0	—	2	14	0	—	0	—	0	—	0	—	0	—	2	20	4	24	14	37	4	27	0	—	0	26	28
	400	0	—	1	22	0	—	0	—	0	—	0	—	0	—	1	49	7	33	10	41	4	32	2	15	0	25	35
	300	0	—	1	47	0	—	0	—	0	—	0	—	0	—	0	—	6	39	12	55	5	46	0	—	0	24	49
	250	0	—	1	52	0	—	0	—	0	—	0	—	0	—	1	90	3	65	11	62	7	52	0	—	0	23	60
	200	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	49	3	63	11	64	4	54	1	23	0	20	63
	150	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	73	7	70	5	50	0	—	0	13	62
	100	0	—	0	—	0	—	0	—	0	—	0	—	1	18	0	—	0	—	4	34	2	48	0	—	0	7	48
	70	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	19	3	24	0	—	0	—	0	4	23
	60	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	11	0	—	2	15	1	48	0	—	0	4	22
	50	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	33	2	27	0	—	0	—	0	3	29
	40	0	—	0	—	0	—	1	22	0	—	0	—	0	—	0	—	0	—	1	45	0	—	0	—	0	2	34
	30	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	35	1	9	0	—	0	2	22
	20	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	8	0	—	—	1	8
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

N = The number of cases the element has been observed direction during the month.

TN = The total number of cases the wind has been observed for all directions during the month.

Table B 3 (*contd.*).—NUMBER OF OCCURRENCES OF WIND DIRECTION WITHIN SPECIFIED RANGES AND THE MEAN SCALAR WIND SPEED AT THE STANDARD AND SELECTED PRESSURE SURFACES

ASWAN (A) NOVEMBER — 1968

Time	Pressure Surface Millibar	Wind between specified ranges of direction (000—300)°																						Number of calm winds	Total number of observations (TN)	Mean scalar wind Speed (knots)
		345 / 014		015 / 044		045 / 074		075 / 104		105 / 134		135 / 164		165 / 194		195 / 224		225 / 254		255 / 284		285 / 314		315 / 344				
		N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m			
0000 U.T.	Surface	10	9	7	9	1	10	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	10	2	12	0	30	9
	1000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	850	5	9	2	4	3	12	5	10	3	4	3	7	2	8	1	4	0	—	0	—	4	7	2	6	0	30	8
	700	0	—	1	10	1	10	4	11	1	7	1	6	0	—	1	32	8	14	11	14	1	11	1	4	0	30	13
	600	2	23	0	—	3	12	0	—	1	2	1	5	0	—	2	9	8	28	10	18	3	20	0	—	0	30	19
	500	1	10	2	12	0	—	0	—	0	—	1	19	0	—	1	6	11	30	12	28	2	20	0	—	0	30	26
	400	1	3	1	19	1	25	0	—	0	—	0	—	0	—	1	42	5	48	18	40	3	17	0	—	0	30	37
	300	0	—	1	17	0	—	0	—	0	—	0	—	0	—	0	—	9	75	17	48	2	21	1	7	0	30	52
	250	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	8	75	16	65	5	36	0	—	0	29	63
	200	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	8	88	16	67	4	84	0	—	0	28	70
	150	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	4	86	18	66	4	57	0	—	0	25	67
	100	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	3	57	10	41	5	40	0	—	0	20	45
	70	0	—	0	—	0	—	2	14	1	19	1	10	0	—	1	10	1	17	4	26	3	18	1	2	0	14	17
	60	0	—	0	—	0	—	1	8	2	12	0	—	1	5	0	—	3	14	3	17	1	2	0	—	1	12	11
	50	0	—	1	6	0	—	1	9	1	8	0	—	1	6	1	6	3	11	4	10	0	—	0	—	0	12	9
	40	1	9	3	10	0	—	1	11	0	—	0	—	0	—	0	—	2	8	2	17	1	11	0	—	0	10	11
	30	2	12	0	—	0	—	3	10	0	—	1	5	0	—	1	10	2	19	0	—	0	—	0	—	0	9	12
	20	—	—	2	14	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	2	14
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1200 U.T.	Surface	13	11	4	7	0	—	2	8	0	—	0	—	0	—	0	—	0	—	0	—	1	10	8	7	1	29	9
	1000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	850	3	10	0	—	5	11	1	10	5	7	1	12	0	—	4	6	4	3	2	6	2	8	2	4	0	29	7
	700	1	5	1	8	1	15	2	14	0	—	1	14	2	14	1	11	8	17	7	12	4	6	0	—	0	28	13
	600	0	—	0	—	2	17	2	14	0	—	1	18	0	—	1	52	7	22	13	18	1	19	0	—	0	27	20
	500	0	—	1	13	2	16	1	12	0	—	0	—	0	—	1	15	9	33	11	28	2	22	0	—	0	27	23
	400	1	10	0	—	1	35	0	—	0	—	0	—	0	—	0	—	7	51	14	33	3	35	1	13	0	27	36
	300	0	—	0	—	—	—	1	29	0	—	0	—	0	—	0	—	7	73	15	46	3	35	0	—	0	27	51
	250	0	—	0	—	—	—	0	—	0	—	0	—	0	—	0	—	5	98	14	67	6	45	1	15	0	26	66
	200	0	—	0	—	—	—	0	—	0	—	0	—	0	—	0	—	5	97	13	81	7	58	0	—	0	25	78
	150	0	—	0	—	—	—	0	—	0	—	0	—	0	—	0	—	4	85	16	61	3	79	1	37	0	24	66
	100	0	—	0	—	—	—	0	—	0	—	0	—	0	—	1	30	3	41	11	41	5	43	0	—	0	29	41
	70	1	25	0	—	1	8	1	17	0	—	0	—	1	13	0	—	2	24	9	26	0	—	0	—	0	15	23
	60	1	13	0	—	0	—	0	—	0	—	1	7	1	18	0	—	3	25	6	18	1	10	0	—	0	13	17
	50	0	—	1	11	1	9	1	22	1	20	1	9	0	—	2	12	2	22	3	10	0	—	0	—	0	12	14
	40	0	—	0	—	0	—	0	—	1	10	1	4	1	19	3	15	2	30	1	17	0	—	1	20	0	10	17
	30	0	—	0	—	0	—	1	7	2	13	0	—	1	16	1	11	1	25	2	18	1	8	0	—	0	9	14
	20	0	—	—	—	0	—	1	12	1	10	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	2	11
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

N = The number of cases the wind has been observed from the range of directions during the month.

TN = The total number of cases the wind has been observed for all directions during the month.

REVIEW OF AGRO-METEOROLOGICAL STATIONS

EL KASR — NOVEMBER 1968

This month was cooler and less rainy than normal. The month was characterized by two cold waves during the periods (1st-4th) and (23nd-29th). The second cold wave was the more intense and yielded the lowest maximum air temperature for the month (18.2°C) on the 27th. Two warm spells were experienced during the period from the 9th to the 13th and on 22 nd. The second warm spell yielded the highest maximum air temperature for the month (26.6°C) on the 11th.

The extreme maximum soil temperatures were lower than the corresponding values of last November at all depths between 2 & 100cm. The differences ranged between 0.3°C at 2 cm. depth and 2.1°C at 50cm. depth. The extreme minimum soil temperatures were also lower than corresponding values of last November at all depths between 2 and 100cm. The differences ranged between 0.3°C at 20cm depth and 1.4°C at 50 cm depth.

The total actual duration of bright sunshine was 41.1 hours more than the corresponding value of last November.

TAHRIR — NOVEMBER 1968

This month was slightly cooler than last November and rainless. The month was characterized by two cold waves during the periods (1st-3rd) and (24th-end of month). The second cold wave was the most intense and yielded the lowest maximum air temperature for the month (19.4°C) on the 27th. Three warm spells were experienced on the 6th, 12th and during the period (19th-22nd). The 1st warm spell yielded the highest maximum air temperature for the month (30.2°C) on the 6th.

The extreme maximum soil temperatures for depths 2 and 5cm were 0.1°C and 1.1°C respectively higher than the corresponding values of last November, while the extreme maxima were lower for other depths between 10 & 100 cm. The differences ranged between 0.4°C at 100 cm depth and 1.4°C at 20 cm depth. The extreme minimum soil temperatures for depths 2 & 5 cm. were 0.6 and 0.2°C respectively lower than the corresponding values of last November, while the extreme minima were lower for other depths between 10 & 100cm. The differences ranged between 0.4°C at 10cm depth and 1.4°C at 50 cm depth.

The mean daily Pan evaporation was 0.33mms higher than the corresponbing value of November 1967. Total actual duration of bright sunshine was 27.0 hours higher than the corresponding value of last November.

BAHTIM — NOVEMBER 1968

This month was slightly cooler and less rainy than last November. The maximum air temperatures were below average all days of the month except on 6th, 8th, 13th & 19th when the maxima were above average. The highest maximum air temperature of the month (28.8°C) occurred on the 19th. The lowest maximum air temperature (19.8°C) occurred on the 27th.

The extreme maximum soil temperatures for depths 2,10 & 20 cm were 3.2°C, 0.9°C and 0.6°C respectively lower than the corresponding values of last November while for depths 5,50 and 100 cm the extreme maxima were 1.6°C, 0.1 and 0.6°C respectively higher than the corresponding values of November 1967. The extreme minimum soil temperatures were higher than the corresponding values of last November for all depths between 2 & 100 cm. The differences ranged between 0.3°C at 10 cm depth and 1.3°C at 100 cm depth.

The mean daily Pan evaporation was 0.03mm lower than the corresponding value of last November. The total actual duration of bright sunshine was 26.6 hours more than the corresponding value of November 1967.

KHARGA — NOVEMBER 1968

This month was mild and rainless. The month was characterized by five cold waves during the period (1st-4th) and on 7,11th and during the periods (15th-16th) and (24th-end of month). The last cold wave was the most intense and yielded the lowest maximum air temperature of the month (22.2°C) on th 29th. A warm spell was experienced on 9th and a heat wave prevailed during the period (18th-22nd). The highest maximum air temperature of the month (33.4°C) occurred on the 20th.

The extreme maximum soil temperatures were lower than the corresponding values of last November for all depths between 2 & 100 cm, The differences ranged between 0.3°C at 100cm depth and 4.8°C at 2cm depth. The extreme minimum soil temperatures were higher than the corresponding values of last November for all depths between 2& 100 cm. The differences ranged between 0.4°C at 5 cm depth and 1.2°C at 2 cm depth .

The mean daily Pan evaporation was 0.12 mm higher than the corresponding value of last November. The total actual duration of bright sunshine was 8.9 hours more than the corresponding value of November 1967.

Note. — During this month records of the mercury in steel hygrograph were not available at TAHARA, BAHTIM and KHARGA centres. The mean of the day Air Temperature, Relative Humidity and Vapour Pressure are calculated according to the following equations:

Mean of day of Air temperature=
=[(0600+1200 + 1800) U.T. dry bulb observations + minimum ari temperature] ÷ 4

Mean of day of Relative Humidity =
(0600 + 1800) U.T. observations ÷ 2

Mean of day of Vapour Pressure=
(0600 + 1200 + 1800) U.T. observations ÷ 3

Table C 1.—AIR TEMPERATURE AT 1½ METRES ABOVE GROUND
NOVEMBER — 1968

STATION	Air Temperature (°C)					Mean Duration in hours of daily air temperature above the following values										
	Mean Max.	Mean Min.	Mean of the day	Night time mean	Day time mean	-5°C	0°C	5°C	10°C	15°C	20°C	25°C	30°C	35°C	40°C	45°C
El Kasr	23.0	12.3	17.1	14.3	20.0	24.0	24.0	24.0	23.7	13.8	6.4	0.6	0.0	0.0	0.0	0.0
Tahrir	25.7	11.6	17.1	—	20.8	—	—	—	—	—	—	—	—	—	—	—
Bahtim	24.9	10.1	16.6	—	20.6	—	—	—	—	—	—	—	—	—	—	—
Kharga	28.0	12.1	20.2	16.9	23.7	—	—	—	—	—	—	—	—	—	—	—

Table C 2.—EXTREME VALUES OF AIR TEMPERATURE AT 1½ METRES ABOVE GROUND, ABSOLUTE MINIMUM AIR TEMPERATURE AT 5cms ABOVE GROUND OVER DIFFERENT FIELDS
NOVEMBER — 1968

STATION	Max. Temp. at 1½ metres				Min. Temp. at 1½ metres				Min. Temp. at 5 cms. above			
	Highest		Lowest		Highest		Lowest		Dry Soil		Grass	
	Value	Date	Value	Date	Value	Date	Value	Date	Value	Date	Value	Date
El Kasr	26.6	11	18.2	27	14.9	1	9.1	30	7.8	18,25,30	—	—
Tahrir	30.2	6	19.4	27	15.5	7	8.5	30	6.6	30	—	—
Bahtim	28.8	19	19.8	27	13.4	22	5.5	30	2.5	30	—	—
Kharga	33.4	20	22.2	29	21.0	21	5.0	27	3.0	27	—	—

Table C 3.—(SOLAR + SKY) RADIATION, DURATION OF BRIGHT SUNSHINE, RELATIVE HUMIDITY & VAPOUR PRESSURE AT 1½ METRES ABOVE GROUND, EVAPORATION & RAINFALL
NOVEMBER — 1968

STATION	Solar+Sky Radiation gm. cal/cm²	Duration of Bright Sunshine (hours)			Relative Humidity %				Vapour Pressure (mms)						Evaporation(mms)		Rainfall (mms)		
		Total Actual	Total Possible monthly	%	Mean of day	1200 U.T.	Lowest	Date	Mean of day	1200 UT	Highest	Date	Lowest	Date	Piche	Pan class (A)	Total Amount monthly	Max. fall in one day	Date
El Kasr	270.7	245.7	317.1	83	70	55	23	13	10.1	11.0	15.0	20	5.4	30	5.4	4.58	4.1	2.9	25
Tahrir	342.4	263.2	318.8	83	76	43	28	8	10.4	9.8	15.4	19	5.4	27	5.0	4.47	0.0	0.0	—
Bahtim	333.7	262.2	319.7	82	76	43	22	19	10.2	9.6	14.4	21	6.0	27	5.3	4.38	0.4	0.4	25
Kharga.	352.4	306.8	328.0	94	43	28	17	9	7.2	7.6	11.2	1,8	4.9	30	12.8	9.31	0.0	0.0	—

Table C 4.—EXTREME SOIL TEMPERATURE AT DIFFERENT DEPTHS IN DIFFERENT FIELDS

NOVEMBER — 1968

STATION	Highest / Lowest	Extreme soil temperature (°C) in dry field at different depths (cms.)								Extreme soil temperature (°C) in grass field at different depths (cms.)							
		2	5	10	20	50	100	200	300	2	5	10	20	50	100	200	300
El Kasr . .	H	28.7	26.3	23.6	21.3	20.7	22.2	23.3	—	—	—	—	—	—	—	—	—
	L	10.6	10.5	11.6	14.3	16.7	19.7	23.0	—	—	—	—	—	—	—	—	—
Tahrir	H	37.8	34.4	28.7	25.8	24.6	25.8	26.8	27.3	—	—	—	—	—	—	—	—
	L	9.6	10.3	12.4	16.1	19.4	21.8	24.5	25.7	—	—	—	—	—	—	—	—
Bahtim	H	38.8	33.4	28.1	26.0	26.8	27.4	27.2	26.3	—	—	—	—	—	—	—	—
	L	11.2	12.1	15.2	19.3	22.2	24.8	26.1	26.0	—	—	—	—	—	—	—	—
Kharga . . .	H	38.2	33.3	29.3	27.0	28.2	29.7	30.6	30.1	—	—	—	—	—	—	—	—
	L	8.5	11.9	16.1	20.2	24.2	27.4	29.2	29.4	—	—	—	—	—	—	—	—

Table C 5.—SURFACE WIND

NOVEMBER — 1968

STATION	Wind Speed m/sec at 1½ metres			Days with surface wind speed at (10 metres)							Max. Gust (knots) at (10 metres)	
	Mean of the day	Night time mean	Day time mean	≥10 knots	≥15 knots	≥20 knots	≥25 knots	≤30 knots	≥35 knots	≥40 knots	value	Date
El Kasr . . .	2.5	2.4	2.7	—	—	—	—	—	—	—	—	—
Tahrir	1.9	1.3	2.5	16	6	3	1	0	0	0	42	27
Bahtim	2.1	1.4	2.8	17	8	2	1	0	0	0	31	27
Kharga . . .	3.0	2.1	3.8	24	19	4	0	0	0	0	27	25

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THE ARAB REPUBLIC OF EGYPT

MONTHLY WEATHER REPORT

VOLUME 11 NUMBER 12

DECEMBER, 1968

U.D.C. 551. 506.1 (62)

THE EGYPTIAN METEOROLOGICAL AUTHORITY
CAIRO

PUBLICATIONS OF THE METEOROLOGICAL AUTHORITY OF THE ARAB REPUBLIC OF EGYPT—CAIRO

In fulfilment of its duties, the Egyptian Meteorological Authority issues serveral reports and publications on weather, climate and agro-meteorology. The principal publications are described on this page.

Orders for publications should be addressed to :

"Chairman of the Board of Directors, Meteorological Authority, Kubri-el-Qubbeh — CAIRO".

THE DAILY WEATHER REPORT

This report is issued daily by the Meteorological Authority since the year 1901. It includes surface and upper air observations carried out by the relevant networks of the Republic at the principal hours of observations.

As from January 1968 this report was revised to include a condensed representative selection of surface and upper air observations besides the 1200 U.T. surface & 500 mb charts.

As from 1st January 1972, the Daily Weather Report will not be issued or distributed because it does not serve no longer any good purpose as it used to be in the past. The Meteorological Authority is ready to supply the recipients of the Report with any information used to be included in it, if they so desire.

THE MONTHLY WEATHER REPORT

First issued in 1909, the Monthly Weather Report served to give a brief summary of the weather conditions that prevailed over Egypt during the month, with a table showing the mean values for few meteorological elements and their deviations from the normal values. From 1954 to 1957 this report was in a rapid state of development and extension resulting into a voluminous report on January 1958 giving surface, upper air, and agro-meteorological data for Egypt.

As from January 1964, the Monthly Weather Report was pressed to give climatological data for a representative selection of synoptic stations.

THE AGRO-METEOROLOGICAL ABRIDGED MONTHLY REPORT

Gives a review of weather experienced in the agro-meteorological stations of Egypt as well as monthly values of certain elements.

THE ANNUAL REPORT

This report gives annual values and statistics for the various meteorological elements, together with a summary of the weather conditions that prevailed during all months of the year.

CLIMATOLOGICAL NORMALS FOR EGYPT

A voluminous edition was issued in March 1968 which brings normals and mean values up till 1960.

METEOROLOGICAL RESEARCH BULLETIN

First issued in January 1969 on a bi-annual basis. It includes research works carried out by members of staff of "The Meteorological Institute for Research and Training" and the Operational Divisions of the Meteorological Authority.

TECHNICAL NOTES

As from October 1970, the Meteorological Authority started to issue a new series of publications in the form of Technical Notes (non periodical) on subjects related to studies and applications of meteorology in different fields for the benefit of personnel working in these fields.

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Note : For explanatory notes on the tables please refer to Volume 11, Number 1 (January 1968).

GENERAL SUMMARY OF WEATHER CONDITIONS

DECEMBER 1968

Normal winter characterized with three cold waves. Subnormal monthly rainfall in general, abnormal heavy rain at Alexandria.

GENERAL DESCRIPTION OF WEATHER

The prevailing weather during this month was generally humid & cold in the northern and middle parts, and dry and mild in the southern parts. Three cold waves of variant intensity prevailed allover the Republic round the periods: (3 — 10), (13 — 18) & (21 — 28); the third wave was the most intense.

Light to moderate rain in general fell over the Mediterranean district during the three cold waves, and extended southwards till Cairo area during the first and third cold waves. Rain was locally heavy over the Mediterranean district during few days.

Rising sand was reported during few days mainly by frontal passages over scattered places, mostly in the Mediterranean and Red Sea districts. Early morning mist and fog developed during several days over Delta, Canal and Cairo areas.

PRESSURE DISTRIBUTION

The most outstanding pressure systems over the surface maps during this month were :

— The Siberian anticyclone

— A quasistationary local anticyclone north of the Balkans during the first ten days of the month.

— Deep low pressure systems through North Urasia.

— Secondary depressions through the Mediterranean area and its vicinities.

— The subtropical high pressure belt over the Atlantic and North Africa.

During this month, six Mediterranean depressions were distinguished, four of which passed through East Mediterranean. The first Mediterranean depression appeared over Central Mediterranean on the 1st, then it moved eastwards and passed through East Mediterranean on the 3rd.

A deep secondary depression developed over West Mediterranean on the 8th and moved slowly to the east on the 9th. The cyclogenetic area enlarged on the 10th and a complex low pressure system covered Central and West Mediterranean areas. The secondary depression over Central Mediteranean proceeded eastwards while filling and traversed East Mediterranean on the 11th. The secondary depression over West Mediterranean moved slowly eastwards with no material change in intensity; it reached East Mediterranean on the 14th and filled up there the next day.

The fourth depression developed over Italy on the 19th, moved slowly eastwards reaching Turkey on the 22nd, and then it moved southwards to East Mediterranean on the 23rd. The cyclogenetic area enlarged on the 24th, and a low pressure system covered East Mediterranean, Turkey and

the Balkans which proceeded eastwards while amalgamating and its southern trough passed through East Mediterranean on the 26th.

A fifth depression appeared over Italy on the 26th; it proceeded slowly eastwards reaching Greece on the 28th, then it took its course northeastwards while filling.

The sixth and last Mediterranean depression developed over North Algiers on the 29th, and proceeded northeastwards reaching Central Mediterranean on the last day of the month.

As a result of the transit of the above mentioned depressions through East Mediterranean, the barometric pressure in Egypt remained below normal most days of the month, and showed pronounced minima round the 3rd, 11th, 14th, 21st & 26th.

The barometric pressure was pronouncedly above normal otherwise and high pressure established over NE Africa and East Mediterranean.

The most outstanding pressure systems over the upper air charts were :

— Deep upper low pressure systems over North Atlantic and North Russia.

— Secondary upper lows or troughs over the middle latitudes, traversing East Mediterranean and north of Egypt on the 5th, 14th, 17th, 24th and 26th.

— Upper high pressure belts over the subtropical latitudes.

SURFACE WIND

In the northern parts of the Republic, the prevailing winds were light to moderate SWly in advance of the Mediterranean troughs transits through Egypt and veered to NWly in their rears. Light to moderate N, NE winds were experienced during few days when high pressure established over NE Africa and East Mediterranean.

In Upper Egypt and Western Desert districts, light to moderate N,NW winds prevailed most days of the month, and SWly winds blew during few days.

The Red Sea district was characterized by the prevalence of light to moderate N, NE winds most days of the month.

Winds became fresh to strong during several days over scattered parts, particularly over the Mediterranean and Red Sea districts - Calms were frequent most of night and early morning intervals in scattered parts of the country.

Gales were reported at Mersa Matruh on the 24th, 25th & 26th. and at Cairo on the 25th.

TEMPERATURE

Maximum air temperature was below normal during the three cold waves which prevailed most days of this month. The departures from normal were in general slight to moderate in the northern and central parts, and rather large in the southern parts. Maximum air temperature values ranged generally between 18°C & 24°C in the northern and central parts, and between 22°C & 29°C in the southern parts.

The absolute maximum air temperature was 33.0°C reported at Aswan on the 14th.

Minimum air temperature fluctuations were more or less similar to maximum air temperature fluctuations. They were below normal most days of the month, with slight to moderate departures in the northern and central parts, and rather large departures in the southern parts - Minimum air temperature values ranged generally between 7°C & 14°C in the northern and southern parts and between 3°C & 11°C in the central parts.

The absolute minimum air temperature was 0.2 °C reported at Siwa and Farafra on the 19th & 9th respectively.

PRECIPITATION

Rain fell over Mediterranean district during three periods (3rd — 8th), (13th — 17th), (22nd — 26th). It extended southwards to lower Egypt and Cairo areas during the first and third periods.

The daily rainfall was light to moderate in general, though it was heavy over local places in the Mediterranean district on the 23rd, 25th & 26th. The monthly rainfall was below normal in most parts of the Republic.

The highest daily rainfall was 50.4 mms reported at Ras El Teen on the 23rd.

The highest monthly rainfall was 86.4 mms reported at Ras El Teen.

Cairo, March 1972

Chairman (M. F. TAHA)

Board of Directors

Table A 1.— MONTHLY VALUES OF THE ATMOSPHERIC PRESSURE, AIR TEMPERATURE, RELATIVE HUMIDITY, BRIGHT SUNSHINE DURATION & PICHE EVAPORATION

DECEMBER — 1968

STATION	Atmospheric Presure (mbs) M.S.L		Air Temperature °C								Relative Humidity %		Bright Sunshine Duration (Hours)			Piche Evaporation mms. Mean
			Maximum		Minimum			Dry Bulb		Wet Bulb						
	Mean	D.F. Normal or Average	(A) Mean	D.F. Normal or Average	(B) Mean	D.F. Normal or Average	$\frac{A+B}{2}$	Mean	D.F. Normal or Average	Mean	D.F. Normal or Average	Mean	D.F. Normal or Average	Total Actual	Total Possible	%	
Sallum	1014.2	−2.8	20.4	−0.1	10.6	−0.4	15.5	15.1	−0.7	11.4	−0.3	61	+2	—	—	—	6.2
Mersa Matruh (A)	1015.1	−2.6	19.7	−0.1	9.5	−1.1	14.6	14.0	−0.5	10.7	−0.7	64	−4	—	—	—	7.2
Alexandria (A)	1015.8	−1.7	20.4	−0.1	10.4	−0.7	15.4	14.9	−0.4	12.0	−0.7	69	−3	208.0	315.6	66	4.5
Port Said (A)	1015.2	−2.1	19.7	−0.1	12.1	−1.5	15.9	—	—	—	—	—	—	231.2	315.6	73	4.1
El Arish	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ghazza	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tanta	1015.9	−1.3	20.8	−0.5	9.1	+0.9	14.9	14.1	−0.6	11.2	−0.5	68	+1	222.9	316.8	70	3.7
Cairo (A)	1016.1	−1.9	21.0	+0.3	10.5	+0.1	15.7	15.5	+0.1	11.0	−0.5	54	−8	—	—	—	10.5
Fayoum	—	—	21.8	−0.1	7.3	−1.1	14.5	—	—	—	—	—	—	—	—	—	3.4
Minya (A)	1016.7	−1.6	22.1	+0.1	7.2	−1.7	13.6	13.2	−0.5	9.5	−0.6	59	−3	261.3	323.0	81	4.7
Assyout (A)	1016.7	−1.3	22.3	0.0	7.9	−0.9	15.1	14.7	−0.5	9.9	−0.3	51	+2	—	—	—	8.0
Luxor (A)	1015.4	−0.8	25.6	−0.8	6.3	−1.3	15.9	15.3	+0.3	10.4	−0.7	50	−3	—	—	—	5.0
Aswan (A)	1014.9	−0.5	25.2	−0.7	9.6	−0.5	17.4	16.9	−0.9	9.6	−1.3	32	−4	—	—	—	11.4
Siwa	1015.6	−2.8	21.2	−0.3	5.4	−0.7	13.3	13.9	−0.5	9.4	+0.2	58	+3	—	—	—	5.7
Bahariya	1016.6	−1.7	21.9	+0.3	6.0	−0.7	13.9	13.8	−1.1	8.7	−2.3	46	−4	—	—	—	6.0
Farafra	—	—	22.3	+0.3	5.0	−1.0	13.6	—	—	—	—	—	—	—	—	—	—
Dakhla	1015.2	+0.9	22.8	−0.5	3.7	−2.4	13.2	13.1	−1.2	7.7	−1.1	41	−3	—	—	—	8.0
Kharga	1015.9	−1.1	23.8	−0.2	5.7	−2.3	14.7	14.8	−0.4	8.7	−0.9	43	−3	304.6	329.2	93	8.6
Tor	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hurghada	1015.2	−1.2	23.3	+0.8	11.1	−0.6	17.2	17.4	+0.2	12.3	−0.3	51	−4	—	—	—	10.3
Quseir	1016.0	−0.3	23.6	−0.5	15.1	−0.7	19.3	19.5	−0.4	13.8	−1.2	49	−4	—	—	—	11.5

Table A2.— MAXIMUM AND MINIMUM AIR TEMPERATURES

DECEMBER — 1968

Station	Maximum Temperature °C									Grass Min. Temp.		Minimum Temperature °C							
	Highest	Date	Lowest	Date	No. of Days with Max-Temp.					Mean	D. From Normal	Highest	Date	Lowest	Date	No. of Days with Min. Temp.			
					>25	>30	>35	>40	>45							<10	<5	<0	<-5
Sallum	24.0	6,10	13.6	24	0	0	0	0	0	10.6	—	13.8	10-28	7.8	24	12	0	0	0
Mersa Matruh (A)	24.0	29	13.4	24	0	0	0	0	0	—	—	12.2	13	5.4	30	15	0	0	0
Alexandra (A)	23.0	20	15.8	25	0	0	0	0	0	9.0	—	14.4	4	7.1	28,30-31	13	0	0	0
Port Said (A)	22.9	2	15.0	26	0	0	0	0	0	11.5	—	15.4	19	10.2	18,27	0	0	0	0
El Arish	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ghazza	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tanta	24.8	2	16.0	25	0	0	0	0	0	—	—	12.2	11	4.7	18	21	1	0	0
Cairo (A)	24.7	13	17.8	27	0	0	0	0	0	—	—	14.6	14	4.8	20	12	1	0	0
Fayoum	25.5	2	17.6	23	2	0	0	0	0	5.6	—	12.9	14	3.5	17	27	2	0	0
Minya (A)	26.3	2	18.5	24	2	0	0	0	0	2.9	—	9.8	13	2.2	21	31	15	0	0
Assyout (A)	30.5	13	18.3	24	3	1	0	0	0	5.8	—	12.0	4	5.5	19	27	0	0	0
Luxor (A)	29.6	13	20.2	24	21	0	0	0	0	2.9	—	11.2	14	4.0	28	29	5	0	0
Aswan (A)	33.0	14	20.5	24	14	2	0	0	0	—	—	14.8	14	6.2	25	21	0	0	0
Siwa	25.1	29	16.4	23	1	0	0	0	0	3.4	—	12.3	25	0.2	19	30	13	0	0
Bahariya	26.0	1	17.1	24	4	0	0	0	0	4.8	—	13.7	13	2.0	9	27	12	0	0
Farafra	29.8	13	18.0	23,24	3	0	0	0	0	4.2	—	13.0	26	0.2	9	30	18	0	0
Dakhla	30.3	13	18.0	24	7	1	0	0	0	—	—	8.8	4	0.8	20	31	23	0	0
Kharga	29.8	13	19.8	8	8	0	0	0	0	3.4	—	13.8	4	1.8	20	30	13	0	0
Tor	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hurghada	28.6	14	20.7	24	4	0	0	0	0	—	—	15.0	26	6.6	25	5	0	0	0
Quseir	26.4	14	21.2	28	5	0	0	0	0	13.5	—	17.4	20,21	10.2	20	0	0	0	0

Table A 3. –SKY COVER AND RAINFALL

DECEMBER — 1968

Station	Mean Sky Cover Oct.					Rainfall mms.										
	00 U.T.	06 U.T.	12 U.T.	18 U.T	Daily Mean	Total Amount	D. From Normal	Max. Fall in one day		Number of Days with Amount of Rain						
								Amount	Date	<0.1	≥0.1	≥1.0	≥5.0	≥10	≥25	≥50
Sallum . . . . . (A)	4.4	2.5	4.2	2.7	3.4	4.7	—15.4	2.5	23	0	5	2	0	0	0	0
Mersa Matruh . . . . . (A)	2.2	3.4	3.7	2.2	2.9	16.3	—17.6	4.8	23,25	0	8	5	0	0	0	0
Alexandria . . . . . (A)	4.5	4.6	5.2	4.0	4.3	63.9	+7.8	11.5	23,26	0	14	9	6	2	0	0
Port Said . . . . . (A)	—	2.5	3.1	—	—	8.0	—10.9	4.8	25	0	6	3	0	0	0	0
El Arish	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ghazza	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tanta	1.7	2.3	3.2	1.0	2.1	10.9	+0.9	4.3	25	0	6	4	0	0	0	0
Cairo . . . . . (A)	2.2	3.2	3.3	1.5	2.5	3.5	—4.5	2.5	25	1	5	1	0	0	0	0
Fayoum	—	1.9	3.2	2.1	—	Tr.	—4.6	Tr.	23,25	2	0	0	0	0	0	0
Minya . . . . . (A)	1.0	1.8	2.0	1.0	1.5	0.0	—0.7	0.0	—	0	0	0	0	0	0	0
Assyout . . . . . (A)	0.6	1.3	1.5	0.7	0.9	0.0	—Tr.	0.0	—	0	0	0	0	0	0	0
Luxor . . . . . (A)	0.9	1.1	2.1	1.2	1.2	0.0	—0.1	0.0	—	0	0	0	0	0	0	0
Aswan	0.6	1.3	1.7	1.5	1.2	0.0	—0.2	0.0	—	0	0	0	0	0	0	0
Siwa	1.3	1.8	2.7	1.1	1.7	4.2	+2.1	2.8	25	2	3	1	0	0	0	0
Bahariya	1.0	1.7	1.9	0.9	1.4	Tr.	—1.2	Tr.	23	1	0	0	0	0	0	0
Farafra	—	1.3	1.9	1.2	—	0.0	—0.3	0.0	—	0	0	0	0	0	0	0
Dakhla	0.4	0.1	0.9	0.1	0.4	0.0	—0.1	0.0	—	0	0	0	0	0	0	0
Kharga	0.5	0.7	1.7	0.6	0.9	0.0	—0.3	0.0	—	0	0	0	0	0	0	0
Tor	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hurghad	0.7	1.8	2.0	1.2	1.4	0.0	—2.2	0.0	—	0	0	0	0	0	0	0
Quseir	0.5	1.4	2.2	0.8	1.1	0.0	—0.1	0.0	—	0	0	0	0	0	0	0

Table A 4. — DAYS OF OCCURRENCE OF MISCELLANEOUS WEATHER PHENOMENA.

DECEMBER — 1968

Station	Precipitation				Frost	Thunderstorm	Mist Vis ≥1000 metres	Fog Vis <1000 Metres	Haze Vis ≥1000 Metres	Thick Haze Vis <1000 Metres	Dust or Sandrising Vis ≥1000 Metres	Dust or Sandstorm Vis <1000 Metres	Gale	Clear Sky	Cloudy Sky
	Rain	Snow	Ice. Pellets	Hail											
Sallum	5	0	0	0	0	0	0	0	0	0	4	0	0	8	0
Mersa Matruh (A)	8	0	0	0	0	0	2	0	0	0	6	0	3	13	4
Alexandria (A)	14	0	0	0	0	1	3	5	0	0	4	0	0	5	8
Port Said (A)	6	0	0	0	0	0	1	1	0	0	1	0	0	—	—
El Arish	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ghaza	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tanta	6	0	0	0	0	0	6	3	0	0	1	0	0	19	1
Cairo (A)	5	0	0	0	0	0	2	3	5	0	4	2	1	13	0
Fayoum	0	0	0	0	0	0	3	0	0	0	0	0	0	—	—
Minya (A)	0	0	0	0	0	0	8	2	9	0	1	0	0	24	0
Assyout (A)	0	0	0	0	0	0	0	1	1	0	2	0	0	24	0
Luxor (A)	0	0	0	0	0	0	0	0	7	0	1	0	0	25	0
Aswan (A)	0	0	0	0	0	0	0	0	3	0	0	0	0	16	0
Siwa	3	0	0	0	0	0	0	0	0	0	1	1	0	21	2
Bahariya	0	0	0	0	0	0	2	0	0	0	1	2	0	22	2
Farafra	0	0	0	0	0	0	0	0	0	0	0	0	0	—	—
Dakhla	0	0	0	0	0	0	0	0	7	0	0	0	0	31	0
Kharga	0	0	0	0	0	0	0	0	0	0	2	0	0	27	0
Tor	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hurghada	0	0	0	0	0	0	0	0	1	0	7	0	0	22	0
Quseir	0	0	0	0	0	0	0	0	0	0	1	0	0	25	0

TABLE A 5. NUMBER IN HOURS OF OCCURRENCES OF CONCURRENT SURFACE WIND SPEED AND DIRECTION RECORDED WITHIN SPECIFIED RANGES

DECEMBER — 1968

Station	calm (hours)	Variable (hours)	Unrecorded (hours)	Wind speed in knots	Number in hours of occurrences of wind blowing from the ranges of directions indicated												
					345 / 014	015 / 044	045 / 074	075 / 104	105 / 134	135 / 164	165 / 194	195 / 224	225 / 254	255 / 284	285 / 314	315 / 344	All directions
Sallum	9	0	0	1 –10	5	11	5	8	10	12	24	22	20	69	62	41	289
				11—27	1	0	0	0	0	0	11	33	95	167	118	15	440
				28—47	0	0	0	0	0	0	0	3	3	0	0	0	6
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**6**	**11**	**5**	**8**	**10**	**12**	**35**	**58**	**118**	**236**	**180**	**56**	**735**
Mersa Matruh (A)	1	0	0	1—10	14	5	7	12	16	21	37	58	53	41	28	11	303
				11—27	1	0	0	1	2	9	29	85	148	83	32	29	419
				28—47	0	0	0	0	0	0	1	5	11	4	0	0	21
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**15**	**5**	**7**	**13**	**18**	**30**	**67**	**148**	**212**	**128**	**60**	**40**	**743**
Alexandria . . (A)	5	0	2	1—10	15	42	11	28	35	32	56	123	36	45	47	23	493
				11—27	0	5	2	0	0	2	18	110	60	19	20	1	237
				28—47	0	0	0	0	0	0	0	3	4	0	0	0	7
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**15**	**47**	**13**	**28**	**35**	**34**	**74**	**236**	**100**	**64**	**67**	**24**	**737**
Port Said . . (A)	9	0	1	1—10	16	54	31	11	26	22	78	73	65	14	15	12	417
				11—27	0	7	0	0	0	4	64	151	71	12	4	0	313
				28—47	0	0	0	0	0	0	1	3	0	0	0	0	4
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**16**	**61**	**31**	**11**	**26**	**26**	**143**	**227**	**136**	**26**	**19**	**12**	**734**
Tanta	52	1	0	1—10	30	29	26	19	11	44	227	129	63	39	13	18	648
				11—27	0	5	0	0	0	1	16	21	0	0	0	0	43
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**30**	**34**	**26**	**19**	**11**	**45**	**243**	**150**	**63**	**39**	**13**	**18**	**691**
Cairo . . . (A)	42	0	1	1—10	7	30	37	40	29	32	76	63	53	20	27	17	431
				11—27	0	5	22	1	5	0	62	99	35	28	1	0	258
				28—47	0	0	0	0	0	0	4	7	1	0	0	0	12
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**7**	**35**	**59**	**41**	**34**	**32**	**142**	**169**	**89**	**48**	**28**	**17**	**701**
Fayoum	57	3	0	1—10	54	87	20	14	10	36	100	98	112	31	35	31	628
				11—27	0	3	0	0	0	0	17	12	22	1	0	0	55
				28—47	0	0	0	0	0	0	0	0	0	1	0	0	1
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**54**	**90**	**20**	**14**	**10**	**36**	**117**	**110**	**134**	**33**	**35**	**31**	**684**
Minya . . . .(A)	144	4	2	1—10	132	13	3	1	3	65	109	21	34	26	27	119	553
				11—27	3	0	0	0	0	5	10	10	0	13	0	0	41
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**135**	**13**	**3**	**1**	**3**	**70**	**119**	**31**	**34**	**39**	**27**	**119**	**594**
Asyout . . . .(A)	8	1	37	1—10	7	14	12	21	28	28	23	16	52	216	118	56	591
				11—27	1	0	0	2	2	3	26	10	18	24	12	9	107
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**8**	**14**	**12**	**23**	**30**	**31**	**49**	**26**	**70**	**240**	**130**	**65**	**698**

TABLE A 5 (*contd.*)—NUMBER IN HOURS OF OCCURRENCES OFCONCURRENT SURFACE WIND SPEED AND DIRECTION RECORDED WITHIN SPECIFIED RANGES

DECEMBER — 1968

Station	Calm (hours)	Variable (hours)	Unrecorded (hours)	Wind speed in knots	Number in hours of occurences of wind blowing from the ranges of directions indicated												All directions
					345 / 014	015 / 044	045 / 074	075 / 104	105 / 134	135 / 164	165 / 194	195 / 224	225 / 254	255 / 284	285 / 314	315 / 344	
Luxor	0	1	0	1—10	34	51	29	75	45	67	143	40	41	70	77	57	729
				11—27	0	0	0	0	0	0	1	6	3	3	1	0	14
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**34**	**51**	**29**	**75**	**45**	**67**	**144**	**46**	**44**	**73**	**78**	**57**	**743**
Aswan	1	3	0	1—10	359	45	7	1	3	5	14	18	14	15	23	130	**634**
				11—27	79	1	0	0	0	0	0	0	0	0	7	19	106
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**438**	**46**	**7**	**1**	**3**	**5**	**14**	**18**	**14**	**15**	**30**	**149**	**740**
Siwa	19	5	0	1—10	1	2	12	40	73	31	29	38	126	153	70	7	582
				11—27	2	0	0	0	4	7	16	6	34	39	25	5	138
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**3**	**2**	**12**	**40**	**77**	**38**	**45**	**44**	**160**	**192**	**95**	**12**	**720**
Dakhla	43	0	3	1—10	27	23	31	49	28	10	64	44	63	110	131	82	662
				11—27	1	0	0	0	0	0	0	5	5	6	10	9	36
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**28**	**23**	**31**	**49**	**28**	**10**	**64**	**49**	**68**	**116**	**141**	**91**	**698**
Kharga	33	1	65	1—10	93	73	18	4	17	24	22	14	20	41	72	164	562
				11—27	36	8	0	0	0	1	7	2	0	5	1	23	83
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**129**	**81**	**18**	**4**	**17**	**25**	**29**	**16**	**20**	**46**	**73**	**187**	**645**
Hurghada	11	0	16	1—10	19	24	11	9	16	8	7	14	6	18	85	67	284
				11—27	106	22	0	0	0	6	3	5	0	0	139	152	433
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**125**	**46**	**11**	**9**	**16**	**14**	**10**	**19**	**6**	**18**	**224**	**219**	**717**
Quseir	2	0	0	1—10	51	28	7	7	14	4	5	24	39	207	126	12	524
				11—27	65	2	0	0	1	4	0	3	5	25	53	60	218
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**116**	**30**	**7**	**7**	**15**	**8**	**5**	**27**	**44**	**232**	**179**	**72**	**742**

UPPER AIR CLIMATOLOGICAL DATA

Table B 1. — MONTHLY MEANS AND MONTHLY ABSOLUTE HIGHER AND LOWER VALUES OF ALTITUDE, AIR TEMPERATURE AND DEW POINT AT STANDARD AND SELECTED PRESSURE SURFACES

DECEMBER — 1968

Station	Pressure Surface (Millibar)	Altitude of Pressure Surface (gpm)				Temperature (°C)				Dew Point (°C)	
		N	Mean	Highest	Lowest	N	Mean	Highest	Lowest	N	Mean
Mersa Matruh 0000 UT	Surface	26	*1012m.b.	*1020m.b.	*1000m.b.	26	11.6	15.2	8.5	26	6.8
	1000	26	131	194	28	26	13.5	16.3	9.0	26	7.9
	850	26	1487	1550	1373	26	6.6	14.9	0.5	26	— 1.6
	700	25	3061	3142	2927	25	— 1.4	5.1	— 8.3	25	—12.2
	600	24	4272	4372	4124	24	— 8.9	— 5.6	—14.3	24	—20.1
	500	24	5660	5774	5492	24	—18.5	—15.0	—25.0	24	—29.2
	400	24	7288	7419	7095	24	—31.1	—27.5	—37.7	24	—39.7
	300	23	9262	9406	9032	23	—45.7	—37.8	—54.3	22	—53.1
	250	21	10463	10637	10205	21	—52.5	—46.8	—57.1	19	—61.2
	200	17	11877	12071	11620	17	—57.7	—52.4	—63.6	11	—64.5
	150	15	13667	13848	13440	15	—61.5	—51.7	—67.8	5	—67.9
	100	12	16162	16362	16000	12	—66.9	—59.6	—75.2	—	—
	70	6	18297	18470	18120	6	—64.5	—69.8	—67.2	—	—
	60	5	19272	19390	19176	5	—63.3	—60.5	—66.0	—	—
	50	5	20402	20512	20310	5	—60.6	—58.7	—63.0	—	—
	40	4	21836	21905	21720	4	—57.6	—55.9	—60.6	—	—
	30	2	23569	23606	23532	2	—58.4	—57.5	—59.4	—	—
	20	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—
Helwan 0000 UT	Surface	31	*1000m.b.	*1008m.b.	*995m.b.	31	12.1	17.8	7.9	31	5.7
	1000	31	134	207	88	18	12.0	13.9	9.8	18	6.3
	850	31	1491	1550	1400	31	7.5	14.6	1.1	31	— 3.6
	700	31	3073	3149	2964	31	— 0.1	4.5	— 9.9	31	—15.4
	600	31	4291	4373	4140	31	— 7.3	— 0.7	—16.5	31	—23.1
	500	31	5687	5777	5481	31	—17.1	—12.4	—27.6	30	—30.7
	400	31	7319	7426	7045	31	—26.6	—26.2	—39.4	31	—42.1
	300	31	9312	9458	8976	31	—53.2	—36.5	—50.3	31	—53.7
	250	31	10518	10655	10148	31	— 51.0	—46.1	—57.8	31	—59.9
	200	31	11947	12096	11644	31	—58.0	—52.0	—64.0	24	—65.9
	150	27	13752	13853	13452	27	—63.6	—56.4	—72.0	3	—70.5
	100	23	16219	16422	16115	23	—69.3	—63.1	—76.0	—	—
	70	19	18413	18580	18240	19	—67.4	—63.0	—73.4	—	—
	60	16	19292	19535	19173	16	—65.1	—62.0	—67.1	—	—
	50	15	20410	20682	20292	15	—62.8	—56.6	—68.3	—	—
	40	13	21794	22107	21649	13	—66.2	—55.4	—67.6	—	—
	30	10	23628	23933	23513	10	—58.7	—53.2	—61.6	—	—
	20	5	26215	26499	26047	5	—54.7	—48.0	—62.8	—	—
	10	—	—	—	—	—	—	—	—	—	—
Aswan 0000 UT	Surface	30	*992m.b.	*997m.b.	*988m.b.	30	12.9	19.0	9.5	30	0.8
	1000	30	124	168	43	—	—	—	—	—	—
	850	30	1507	1547	1483	30	14.0	18.4	5.5	30	— 4.4
	700	30	3124	3185	3059	30	6.8	10.0	2.3	30	—12.9
	600	30	4372	4447	4295	30	— 1.3	1.9	— 6.2	30	—18.9
	500	30	5802	5883	5707	30	—10.3	— 8.0	—15.8	30	—25.1
	400	30	7483	7571	7353	30	—22.3	—17.0	—26.3	30	—35.5
	300	30	9534	9633	9366	30	—37.2	—31.0	—42.8	29	—48.6
	250	29	10774	10901	10600	29	—46.6	—35.7	—57.5	28	—57.4
	200	27	12219	12401	12058	27	—56.4	—47.2	—62.1	23	—65.1
	150	22	14004	14270	13839	22	—64.8	—55.7	—71.7	2	—67.0
	100	20	16425	16785	16259	20	—73.8	—67.9	—86.6	—	—
	70	15	18539	18900	18370	15	—68.2	—63.0	—72.3	—	—
	60	15	19455	19805	19319	15	—65.3	—62.7	—70.8	—	—
	50	15	20568	20883	20446	15	—62.8	—59.7	—67.3	—	—
	40	12	21948	22205	21834	12	—60.9	—57.2	—70.2	—	—
	30	11	23764	23940	23635	11	—58.6	—55.2	—69.0	—	—
	20	7	26328	26416	26262	7	—57.0	—50.9	—67.1	—	—
	10	2	30796	30962	30629	2	—51.7	—42.8	—60.6	—	—

N = Number of cases the element has been observed during the month.

* The atmospheric pressure corrected to the elevation of the radiosonde station.

UPPER AIR CLIMATOLOGICAL DATA

Table B 1 (*contd.*).—MONTHLY MEANS, ABSOLUTE HIGHER AND LOWER VALUES OF ALTITUDE, AIR TEMPERATURE AND DEW POINT AT STANDARD AND SELECTED PRESSURE SURFACES

DECEMBER — 1968

Station	Pressure Surface (Millibar)	Altitude of Pressure Surface (gpm)				Temperature (°C)				Dew Point (°C)	
		N	Mean	Highest	Lowest	N	Mean	Highest	Lowest	N	Mean
Mersa Matruh (A) 1200	Surface	28	*1011mb.	*1020mb.	*997mb.	28	19.0	23.6	13.0	28	9.5
	1000	28	126	198	03	27	18.1	22.8	12.6	27	8.4
	850	28	1490	1559	1359	28	7.6	13.4	3.0	28	— 2.9
	700	27	3074	3144	2980	27	— 0.3	4.5	— 7.4	26	—14.7
	600	26	4284	4373	4079	26	— 7.0	— 3.7	—16.0	25	—21.7
	500	24	5691	5791	5525	24	—17.3	—12.5	—24.7	24	—30.4
	400	23	7328	7455	7111	23	—29.3	—25.0	—37.7	23	—42.3
	300	23	9321	9477	9023	23	—44.1	—38.1	—53.5	23	—54.3
	250	20	10526	10697	10209	20	—49.8	—46.1	—56.6	19	—61.4
	200	16	11964	12127	11758	16	—57.0	—53.4	—61.8	12	—65.7
	150	13	13782	13905	13656	13	—60.3	—55.5	—62.6	5	—67.1
	100	12	16274	16391	16132	12	—65.0	—60.5	—69.3	—	—
	70	6	18486	18538	18460	6	—64.2	—60.2	—66.3	—	—
	60	4	19424	19458	19400	4	—61.9	—60.6	—63.0	—	—
	50	4	20559	20596	20535	4	—59.4	—56.6	—62.0	—	—
	40	3	21972	21998	21955	3	—56.3	—54.6	—57.9	—	—
	30	2	23806	23820	23792	2	—54.4	—53.0	—55.9	—	—
	20	1	26440	—	—	1	—48.5	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—
Helwan 1200 U.T.	Surface	31	*993mb.	*1004mb.	*991mb.	31	19.7	25.6	15.0	31	5.8
	1000	31	129	192	63	11	19.6	22.8	16.5	11	5.5
	850	31	1499	1550	1407	31	8.9	18.7	1.0	31	— 3.9
	700	31	3079	3157	2956	31	1.1	6.8	— 6.3	31	—15.1
	600	31	4307	4409	4162	31	— 6.2	0.0	—13.6	31	—21.7
	500	31	5712	5840	5542	31	—15.7	— 9.7	—24.5	31	—30.0
	400	30	7350	7514	7156	30	—27.7	—21.7	—34.3	30	—40.6
	300	29	9366	9554	9105	29	—42.4	—35.3	—50.9	29	—53.1
	250	29	10583	10788	10258	29	—50.5	—48.0	—60.0	28	—60.4
	200	29	12037	12272	11661	29	—57.7	—53.0	—63.8	21	—66.3
	150	28	13797	14035	13454	28	—62.0	—55.3	—69.5	7	—67.3
	100	25	16263	16462	15968	25	—66.8	—58.2	—72.8	—	—
	70	21	18436	18630	18220	21	—64.9	—60.3	—68.8	—	—
	60	21	19380	19547	19171	21	—62.6	—58.2	—66.2	—	—
	50	21	20508	20690	20310	21	—60.5	—53.7	—65.3	—	—
	40	19	21905	22095	21735	19	—58.0	—51.0	—63.2	—	—
	30	16	23800	23942	23446	16	—55.7	—50.2	—60.4	—	—
	20	6	26368	26508	26206	6	—51.4	—40.8	—61.4	—	—
	10	1	31080	—	—	1	—55.2	—	—	—	—
Aswan (A) 1200 T.U.	Surface	31	*991mb.	*996mb.	*988mb.	31	23.6	31.0	18.8	31	3.3
	1000	31	114	150	85	—	—	—	—	—	—
	850	31	1503	1548	1477	31	14.4	20.0	5.8	31	— 6.2
	700	31	3129	3179	3072	31	7.3	11.0	2.7	31	—14.9
	600	31	4377	4441	4309	31	— 0.6	3.2	— 5.6	31	—19.4
	500	30	5806	5883	5721	30	— 9.8	— 5.5	—14.2	30	—27.7
	400	30	7497	7582	7390	30	—21.6	—18.5	—25.9	30	—37.3
	300	29	9555	9644	9421	29	—36.7	—33.0	—41.0	29	—50.1
	250	29	10793	10888	10649	29	—45.3	—38.8	—50.2	29	—57.7
	200	27	12252	12344	12111	27	—55.6	—50.8	—59.7	26	—66.1
	150	20	14032	14154	13903	20	—64.2	—58.9	—69.1	1	—72.4
	100	19	16476	16646	16337	19	—70.3	—66.7	—76.7	—	—
	70	12	18612	18800	18490	12	—65.9	—62.2	—69.0	—	—
	60	11	19555	19740	19419	11	—63.3	—57.2	—68.0	—	—
	50	10	20686	20886	20545	10	—58.6	—53.0	—63.3	—	—
	40	10	22096	22324	21958	10	—55.4	—52.7	—59.5	—	—
	30	10	23944	24187	23805	10	—52.7	—47.0	—56.8	—	—
	20	7	26547	26786	26455	7	—51.0	—42.2	—54.2	—	—
	10	—	—	—	—	—	—	—	—	—	—

N = The number of cases the element has been observed during the month.

* The atmospheric pressure corrected to the elevation of the radiosnde station.

TABLE B 2.—MEAN AND EXTREME VALUES OF THE FREEZING LEVEL AND THE TROPOPAUSE ; THE HIGHEST WIND SPEED IN THE UPPER AIR

DCEEMBER — 1968

	Station	Freezing Level									First Tropopause									Highest wind speed			
		Mean			Highest			Lowest			Mean			Highest			Lowest						
		Altitude (gpm)	Pressure (mb.)	Dew point (°C)	Altitude (gpm)	Pressure (mb.)	Dew Point (°C)	Altitude (gpm)	Pressure (mb.)	Dew Point (°C)	Altitude (gpm)	pressure (mb.)	Temperature (°C)	Altitude (gpm)	Pressure (mb.)	Temperature (°C)	Altitude (gpm)	Pressure (mb.)	Temperature (°C)	Altitude (gpm)	Pressure (mb.)	Direction (000 - 360)°	Speed in Knots
0000 U.T.		(N)	(N)	(N)							(N)	(N)	(N)										
	M. Matruh .	2675 (22)	738 (22)	-6.7 (21)	3520	675	— 8.7	1560	844	— 1.4	11443 (13)	218 (13)	-57.5 (13)	14840	126	-66.5	8960	303	-54.5	11600	214	270	165
	Helwan . .	3007 (31)	708 (31)	-14.0 (31)	3900	644	—23.5	1620	830	— 0.8	13237 (25)	164 (25)	-64.3 (25)	16308	100	-71.4	8180	237	-46.1	11100	228	258	150
	Aswan . . .	4191 (30)	615 (30)	-18.1 (30)	4700	580	—22.7	3580	660	— 9.4	15367 (15)	120 (15)	-69.2 (15)	18680	69	-71.1	11020	240	-49.3	16430	106	270	186
1200 U.T.		(N)	(N)	(N)							(N)	(N)	(N)										
	M. Matruh. .	2883 (25)	718 (25)	-12.5 (21)	3960	635	—22.7	1750	816	—	11887 (13)	205 (13)	-58.8 (13)	15600	113	-72.3	8900	306	-54.0	10800	—	260	146
	Helwan . . .	3189 (31)	695 (31)	-14.9 (31)	4409	600	—19.6	1600	834	— 2.3	13296 (27)	168 (27)	-64.2 (27)	17640	111	-70.5	10455	250	-53.0	11290	228	280	182
	Aswan . . .	4254 (31)	610 (31)	-20.0 (29)	4900	566	—21.5	3500	666	—19.8	14806 (15)	138 (15)	-67.8 (15)	17350	86	-71.7	12100	208	-55.0	12515	191	270	150

N — The number of cases the element has obse rved beenduring the month .

Table B 3.—NUMBER OF OCCURRENCES OF WIND DIRECTION WITHIN SPECIFIED RANGES AND THE MEA SCALAR WIND SPEED AT THE STANDARD AND SELECTED PRESSURE SURFACES

MERSA MATRUH (A)— DECEMBER 1968

Time	Ptessure Surface (Millibar)	Wind between ranges of direction (000—360)°																						Number of Calm winds	Total Number of Observations (TN)	Mean Scalar wind Speed (Konts)
		345 / 014		015 / 044		045 / 074		075 / 104		105 / 134		135 / 164		165 / 194		195 / 224		225 / 254		255 / 284		285 / 314		315 / 344				
		N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m			
0000 U.T.	Surface	0	—	1	12	0	—	2	10	0	—	1	10	1	3	11	10	6	15	1	11	2	10	0	—	1	26	11
	1000	0	—	0	—	0	—	1	8	3	13	2	10	0	—	4	15	5	14	4	18	1	9	1	15	1	22	13
	850	1	11	0	—	0	—	0	—	1	6	1	11	1	21	0	—	5	21	8	16	3	23	2	12	0	22	17
	700	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	18	6	30	6	24	6	17	0	—	0	20	23
	600	0	—	0	—	0	—	0	—	0	—	0	—	1	7	1	18	4	44	9	35	5	31	0	—	0	20	33
	500	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	6	41	8	37	6	42	0	—	0	20	40
	400	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	58	14	46	3	57	1	49	0	20	49
	300	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	5	63	12	71	3	119	0	—	0	20	70
	250	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	82	12	75	2	58	0	—	0	16	74
	200	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	59	9	83	2	96	0	—	0	12	83
	150	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	5	70	1	68	0	—	0	6	69
	100	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	48	0	—	1	60	0	2	54
	70	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	42	0	—	0	—	0	—	0	1	42
	60	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	36	0	—	0	—	0	1	36
	50	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	58	0	—	0	—	0	1	58
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1200 U.T.	Surface	1	2	0	—	1	8	0	—	1	5	1	20	1	12	4	15	4	24	2	18	9	13	4	12	0	28	14
	1000	2	18	1	8	1	6	0	—	1	4	1	24	1	7	2	20	4	22	3	25	7	15	4	18	0	27	16
	850	0	—	0	—	0	—	2	9	0	—	0	—	1	15	3	11	5	22	10	20	5	17	1	5	1	28	17
	700	0	—	0	—	0	—	0	—	0	—	2	7	0	—	0	—	6	33	11	27	3	17	2	16	1	25	24
	600	0	—	0	—	0	—	0	—	0	—	0	—	1	5	1	22	3	55	14	30	4	22	0	—	0	23	30
	500	1	11	0	—	0	—	0	—	0	—	0	—	0	—	0	—	4	30	14	42	2	45	1	50	0	22	39
	400	1	6	0	—	0	—	0	—	0	—	0	—	0	—	1	40	4	57	10	52	5	51	0	—	0	21	50
	300	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	55	3	77	11	65	5	50	0	—	0	20	63
	250	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	3	72	10	75	3	66	0	—	0	16	73
	200	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	75	9	79	0	—	0	—	0	11	78
	150	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	57	6	82	0	—	0	—	0	7	79
	100	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	5	68	0	—	0	—	0	5	68
	70	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	46	0	—	0	—	0	2	46
	60	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	40	0	—	0	1	40
	50	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	31	0	—	0	—	0	1	31
	40	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	46	0	—	0	—	0	1	46
	30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

N = The number of cases the element has been observed during the month,

TN = The total number of cases the wind has been observed for all dirictions during the month,

Table B 3—NUMBER OF OCCURRENCES OF WIND DIRECTION WITHIN SPECIFIED RANGES AND THE MEAN SCALAR WIND SPEED AT THE STANDARD AND SELECTED PRESSURE SURFACES.

HELWAN—DECEMBER 1968

Time	Pressure Surface (Millibar)	Wind between ranges of direction (000—360)°																						Number of Calm winds	Total Number of observations (TN)	Mean Scalar wind Speed (Knots)
		345 / 014		015 / 044		045 / 074		075 / 104		105 / 134		135 / 164		165 / 194		195 / 224		225 / 254		255 / 284		285 / 314		315 / 344				
		N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m			
0000 U. T.	Surface	1	2	2	4	9	6	1	7	7	3	0	—	2	12	1	16	0	—	2	6	1	6	0	—	5	31	5
	1000	2	4	3	8	6	9	1	5	2	4	1	4	1	3	0	—	0	—	1	7	0	—	0	—	0	17	7
	850	2	16	2	10	0	—	1	10	0	—	0	—	2	18	4	25	7	19	4	22	3	14	3	10	0	28	17
	700	0	—	0	—	1	5	0	—	0	—	0	—	1	8	4	26	4	28	12	33	5	27	1	25	0	28	28
	600	0	—	0	—	0	—	0	—	0	—	0	—	1	5	2	30	8	34	9	42	5	35	1	36	0	36	36
	500	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	44	8	45	12	52	3	34	0	—	0	25	47
	400	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	50	3	54	15	53	2	46	0	—	0	22	54
	300	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	95	3	63	12	81	2	54	0	—	0	18	76
	250	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	114	3	74	8	89	1	80	0	—	0	13	87
	200	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	80	4	86	0	—	0	—	0	5	85
	150	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	—	—	2	80	0	—	0	—	0	2	80
	100	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	70	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	60	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
0000 U. T.	Surface	0	—	5	11	1	4	0	—	2	3	0	—	4	14	9	8	6	6	0	—	4	7	0	—	0	31	8
	1000	0	—	4	18	0	—	0	—	0	—	0	—	0	—	2	9	2	4	0	—	3	9	0	—	0	11	10
	850	3	9	1	14	2	12	1	13	1	8	1	9	1	11	0	—	10	25	5	20	5	10	0	—	0	30	17
	700	0	—	0	—	0	—	0	—	0	—	0	—	1	22	3	17	10	34	9	18	5	13	2	28	0	30	26
	600	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	32	15	39	9	36	3	31	1	50	0	29	37
	500	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	33	9	36	10	46	1	44	1	53	0	13	41
	400	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	30	7	46	9	54	2	69	0	—	0	20	56
	300	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	74	5	76	7	78	2	65	0	—	0	15	75
	250	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	3	94	7	80	1	88	0	—	0	11	85
	200	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	3	85	3	80	0	—	0	—	0	6	83
	150	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	70	1	56	0	—	0	—	0	2	63
	100	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	57	0	—	0	1	57
	70	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	43	0	—	0	—	0	1	43
	60	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	45	0	—	0	—	0	1	45
	50	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	54	0	—	0	—	0	1	54
	40	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	36	0	—	0	—	0	1	36
	30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

N = The number of cases the element has been observed during the month.

TN = Total number o cases the wind has been observed for all directions during the month,

TABLE B 3 (*contd.*)—NUMBER OF OCCURRENCES OF WIND DIRECTION WITHIN SPECIFIED RANGES AND THE MEAN SCALAR WIND SPEED AT THE STANDARD AND SELECTED PRESSURE SURFACES.

ASWAN (A) — DECEMBER 1963

Time	Pressure Surface Millibar	Wind between ranges of direction (000—360)°																						Number of calm winds	Total number of observations (TN)	Mean scalar wind speed (Knots)
		345 / 014		015 / 044		045 / 074		075 / 104		105 / 134		135 / 164		165 / 194		195 / 224		225 / 254		255 / 284		285 / 314		315 / 344				
		N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m			
0000 U.T.	Surface	22	8	2	8	0	—	0	—	1	4	—	—	0	—	0	—	0	—	0	—	3	9	1	6	1	30	8
	1000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	850	1	11	0	—	4	10	2	6	3	12	1	12	1	22	0	—	3	14	2	14	7	8	5	11	0	29	11
	700	1	12	0	—	0	—	0	—	0	—	0	—	0	—	0	—	10	23	11	18	5	17	2	15	0	29	20
	600	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	8	42	18	28	2	32	1	38	0	29	32
	500	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	4	48	21	47	4	44	0	—	0	29	47
	400	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	7	61	19	60	3	65	0	—	0	29	60
	300	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	6	84	21	78	2	66	0	—	0	29	78
	250	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	7	79	19	86	2	66	0	—	0	28	83
	200	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	5	105	17	95	3	80	0	—	0	25	95
	150	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	3	73	17	94	1	69	0	—	0	21	90
	100	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	5	65	11	77	2	94	0	—	0	18	77
	70	1	19	0	—	0	—	0	—	0	—	0	—	0	—	1	41	3	33	8	30	0	—	0	—	0	13	36
	60	0	—	0	—	1	20	0	—	1	30	2	10	0	—	0	—	5	35	3	29	1	16	0	—	0	13	27
	50	0	—	0	—	0	—	0	—	0	—	1	8	0	—	2	16	3	12	3	25	1	20	0	—	0	10	17
	40	0	—	1	22	0	—	1	1	2	8	0	—	0	—	1	15	1	25	2	30	2	19	0	—	0	10	18
	30	0	—	1	12	0	—	0	—	0	—	0	—	0	—	0	—	2	16	2	10	1	33	1	16	0	7	16
	20	0	—	1	43	0	—	0	—	1	30	0	—	0	—	0	—	0	—	0	—	0	—	1	12	0	3	28
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1200 U.T.	Surface	18	9	3	5	0	—	1	8	2	4	0	—	1	4	0	—	0	—	2	10	1	2	3	6	0	31	7
	1000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	850	4	10	3	8	2	6	1	14	2	3	0	—	0	—	0	—	4	6	7	9	3	11	5	11	0	31	9
	700	1	7	0	—	0	—	0	—	0	—	0	—	0	—	2	18	6	22	13	17	4	20	5	14	0	31	18
	600	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	41	7	20	18	29	2	34	2	21	0	30	29
	500	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	6	48	20	42	3	39	0	—	0	29	43
	400	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	7	61	19	54	3	42	0	—	0	29	55
	300	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	5	84	19	75	4	84	0	—	0	28	77
	250	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	3	94	21	82	4	88	0	—	0	28	88
	200	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	4	139	20	92	1	102	0	—	0	25	100
	150	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	128	15	96	3	71	0	—	0	20	96
	100	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	47	11	63	2	50	0	—	0	15	59
	70	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	3	30	6	38	1	39	0	—	0	10	36
	60	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	31	1	18	3	26	1	17	0	—	0	7	32
	50	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	47	3	23	1	21	0	5	27
	40	0	—	0	—	0	—	1	4	0	—	0	—	1	5	0	—	0	—	2	22	1	42	0	—	0	5	19
	30	0	—	0	—	0	—	0	—	0	—	0	—	1	10	0	—	1	18	0	—	0	—	0	—	0	2	14
	20	0	—	0	—	0	—	1	8	0	—	0	—	0	—	0	—	1	5	0	—	0	—	0	—	0	2	6
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

N = The number of cases the element has been observed during the month.
TN = The total number of cases the wind has been observed for all directions during the month.

REVIEW OF AGRO-METEOROLOGICAL STATIONS

EL KASR — DECEMBER 1968

This month was slightly cooler and less rainy than normal. The month was characterized by two cold waves during the periods (5th - 9th) and (23rd — 26th). The second cold wave was the more intense and yielded the lowest maximum air temperature for the month (13.4°C) on the 24th. Three warm spells were experienced during the period (10th-12th), on the 18th and the period (27th - 29th). The last warm spell yielded the highest maximum air temperature for the month (23.9°C) on the 29th.

The extreme maximum soil temperatures were lower than the corresponding values of last December at all depths between 2, 100 cm. and the differences ranged between 0.2°C at 2 cm. depth and 1.3°C at 5 cm. depth. The extreme minimum soil temperatures were also lower than the corresponding values of last December at all depths between 2,100 cm. and the differences ranged between 0.2°C at 20 cm. and 1.0°C at 5 cm.

The total actual duration of bright sunshine was 7.4 hours more than the corresponding value of December 1967.

TAHRIR — DECEMBER 1968

This month was slightly cooler and less rainy than last December. The month was characterized by two cold waves during the periods (6th - 9th) and (23rd - 26th). The second cold wave was the more excessive and yielded the lowest maximum air temperature for the month (17.2°C) on the 26th. Three warm spells were experienced on the 2nd and during the periods (10th - 13th) and (28th - 29th). The second warm spell yielded the highest maximum air temperature for the month (25.2°C) on the 12th.

The extreme maximum soil temperatures were slightly lower than the corresponding values of last December at 2,20 cms. depths and the differences were 0.3°C, 0.2°C. At other depths, the extreme soil maxima were higher than last December and the differences ranged between 0.1°C at 10 cm. depth and 0.9°C at both 50,100 cm. depths.

The extreme minimum soil temperatures were higher than the corresponding values of last December at 2,20, 50 cm. depths and the differences ranged between 0.5, 0.6°C. At other depths, the extreme soil minima were lower than last December with differences ranging between 0.2°C, 0.3°C.

The mean daily Pan evaporation was 0.78 mm. more than the corresponding value of December 1967. The total actual duration of bright sunshine was 7.9 hours more than the corresponding value of December 1967.

BAHTIM — DECEMBER 1968

This month was mild and more rainy than last December. The month was characterized by two cold waves during the periods (6th - 10th) and (22nd - 27th). The second cold wave was the more pronounced and yielded the lowest maximum air temperature for the month (17.5°C) on the 24th.

The extreme maximum soil temperatures were lower than the corresponding values of last December at 2,10 cm. depths and the differences were 3.1°C, 0.6°C respectively. At other depths, the extreme soil maxima were higher than last December with differences ranging between 1.0°, 1.1°C.

The extreme minimum soil temperatures were higher than last December at all depths, and the differences ranged between 2.7°C at 2 cm., 0.3°C at 20 cm.

The mean daily Pan evaporation was 0.08 mm. less than the corresponding value of December 1967. The mean daily actual duration of birhgt sunshine was 0.2 hour less than the corresponding value of December 1967.

KHARGA — DECEMBER 1968

This month was slightly cooler than normal and rainless. The month was characterized by four cold waves during the periods (5th – 9th), on the 15th, (22nd – 24th) and on the 27th. The first cold wave was the most intense and yielded the lowest maximum air temperature for the month (19.8°C) on the 8th. Three warm spells were experienced on the 2nd and during the periods (12th – 13th), (30th – 31st). The second warm spell yielded the highest maximum air temperature for the month (29.8°C) on the 13th.

The extreme maximum soil temperatures were lower than the corresponding values of last December at depths between 2,20 cms. and the differences ranged between 4.0°C at 2 cm. and 0.3°C at 20 cm. At 50, 100cm. depths the extreme soil maxima were higher than last December and the differences were 0.1°C, 0.5°C respectively. The extreme minimum soil temperatures were lower than the corresponding values of last December at 2,5,100 cms. depths with differences ranging between 1.4°C at 2 cm., 0.1°C at 100 cm. At 10, 20 cm, depths the extreme soil minima were 0.3°C, 0.2°C respectively higher than last December, while at 50 cm. depth the values were the same.

The mean daily Pan evaporation was 0.81 mm. less than the corresponding value of December 1967. The total actual duration of bright sunshine was 34.5 hours more than the corresponding value of December 1967.

Note.— During this month records of the mercury in steel hygrograph were not available at Tahrir and Kharga centres. For these centres the mean of day of air temperature, relative humidity and vapour pressure are calculated according to the tollowing equations:

Mean of day of air temperature
=[(0600+1200+1800) U.T. dry bulb observations +minimum air temperature] ÷ 4

Mean of day of relative humidity
=(0600+1800) U.T. observations ÷ 2

Mean of day of vapour pressure
=(0600+1200+1800) U.T. observations ÷ 3

Table C1.—AIR TEMPERATURE AT 1½ METRES ABOVE GROUND

DECEMBER — 1968

STATION	Air Temperature (°C)					Mean Duration in hours of daily air temperature above the following values									
	Mean Max.	Mean Min.	Mean of the day	Night time mean	Day time mean	- 5°C	0°C	5°C	10°C	15°C	20°C	25°C	30°C	35°C	40°C	45°C
El Kasr	19.7	9.4	14.0	11.8	16.6	24.0	24.0	24.0	21.1	9.7	1.7	0.0	0.0	0.0	0.0	0.0
Tahrir	21.8	8.9	13.6	—	16.9	—	—	—	—	—	—	—	—	—	—	—
Bahtim	21.0	7.5	13.7	11.3	16.6	24.0	24.0	23.9	19.1	8.9	2.0	0.0	0.0	0.0	0.0	0.0
Kharga	23.8	5.7	14.9	11.1	18.7	—	—	—	—	—	—	—	—	—	—	—

Table C 2.—EXTREME VALUES OF AIR TEMPERATURE AT 1½ METRES ABOVE GROUND, ABSOLUTE MINIMUM AIR TEMPERATURE AT 5cms ABOVE GROUND OVER DIFFERENT FIELDS.

DECEMBER — 1968

STATION	Max. Temp. at 1½ metres (°C)				Min. Temp. at 1½ metres (°C)				Min. Temp. at 5 cms. above (°C)			
	Highest		Lowest		Highest		Lowest		Dry soil		Grass	
	Value	Date	Value	Date	Value	Date	Value	Date	Value	Date	Value	Date
El Kasr	23.9	29	13.4	24	12.2	4	6.4	19	3.1	19	—	—
Tahrir	25.2	12	17.2	26	13.8	11	5.7	29	3.1	30	—	—
Bahtim	24.0	1,2	17.5	24	11.6	25	4.0	30	0.3	10	—	—
Kharga.	29.8	13	19.8	8	13.8	4	1.8	20	0.0	20	—	—

Table C 3.—(SOLAR+SKY) RADIATION, DURATION OF BRIGHT SUNSHINE, RELATIVE HUMIDITY, VAPOUR PRESSURE AT 1½ METRES ABOVE GROUND, EVAPORATION & RAINFALL

DECEMBER — 1968

STATION	(Solar+Sky) Radiation gm. cal/cm²	Duration of Bright Sunshine (hours)			Relative Humidity %				Vapour pressure (mms)						Evaporation(mms)		Rainfall (mms)		
		Total Actual monthly	Total Possible monthly	%	Mean of day	1200 U.T.	Lowest	Date	Mean of day	1200 U.T.	Highest	Date	Lowest	Date	Piche	Pan class A	Total Amount Monthly	Max. Fall in one day	Date
El Kasr . . .	204.8	198.6	313.9	68	71	57	30	10	8.4	9.4	12.4	31	4.7	10	6.6	5.04	30.0	8.2	23
Tahrir	281.6	215.9	316.8	68	74	46	20	13	8.0	8.1	13.0	20	4.2	16	5.1	3.84	4.3	1.8	6
Bahtim. . . .	273.4	185.6*	317.4	65	67	46	24	11	7.6	8.0	12.5	19	4.4	11	4.8	3.59	3.6	1.8	25
Kharga. . . .	305.7	304.6	329.2	93	46	30	17	13	5.5	6.1	8.1	8	3.0	14	8.5	6.19	0.0	0.0	—

* Total for 28 days

Table C 4.—EXTREME SOIL TEMPERATURE AT DEFFERENT DEPTHS (cms) IN DIFFERENT FIELDS

DECEMBER — 1968

STATION	Highest (H) Lowest (L)	Extreme soil temperature (°C) in dry field at different depths (cms.)								Extreme soil temperature (°C) in grass field at different depths (cms.)							
		2	5	10	20	50	100	200	300	2	5	10	20	50	100	200	300
El Kasr . .	H	23.4	20.5	18.8	16.9	17.2	19.5	23.6	—	—	—	—	—	—	—	—	—
	L	7.0	7.3	8.3	11.6	14.1	17.0	23.1	—	—	—	—	—	—	—	—	—
Tahrir. . .	H	29.5	26.7	22.2	19.4	19.7	21.7	24.4	25.5	—	—	—	—	—	—	—	—
	L	6.6	7.0	9.4	13.8	16.4	18.2	20.5	23.4	—	—	—	—	—	—	—	—
Sahtim . .	H	29.2	25.2	21.6	20.5	22.8	24.6	26.1	25.8	—	—	—	—	—	—	—	—
	L	8.0	9.7	13.6	16.6	19.2	21.7	24.2	25.2	—	—	—	—	—	—	—	—
Kharga . .	H	31.7	26.4	23.3	22.2	24.1	27.0	29.1	29.5	—	—	—	—	—	—	—	—
	L	5.2	8.5	13.0	17.0	20.5	23.6	27.2	28.6	—	—	—	—	—	—	—	—

Table C 5,—SURFACE WIND

DECEMBER — 1968

STATION	Wind Speed m/sec at 1⅛ metres			Days with surface wind speed at 10 metres							Max, Gust (knots) at 10 metres	
	Mean of the day	Night time mean	Day time mean	≥ 10 konts	≥ 15 knots	≥ 20 knots	≥ 25 knots	≥ 30 knots	≥ 35 knots	≥ 40 knots	Value (knots)	Date
El Kasr.	2.6	2.5	2.7	—	—	—	—	—	—	—	—	—
Tahrir	2.3	1.8	2.9	24	14	8	3	2	0	0	40	25
Sahtim	2.6	2.1	3.2	25	17	6	4	2	0	0	43	25
Kharga	2.2	1.4	3.0	24	10	3	0	0	0	0	27	18

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